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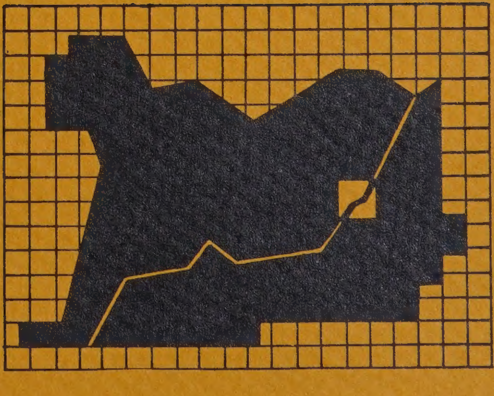
UNIVERSITY SITE SELECTION STUDY

EDMONTON AREA



Edmonton Regional Planning Commission

1972-218-082-1

UNIVERSITY SITE SELECTION STUDY

EDMONTON AREA

An Analysis of Potential Sites
for a Second and/or a Satellite
University Campus in the
Edmonton Area.

July, 1968

Prepared by the EDMONTON REGIONAL PLANNING COMMISSION - Edmonton, Alberta

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F. J. MITCHELL
CHAIRMAN

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EXECUTIVE DIRECTOR

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OUR FILE ....

YOUR FILE ....

August 6, 1968

Mr. F. J. Mitchell, Chairman
Edmonton Regional Planning Commission
EDMONTON, Alberta

Dear Sir:

Herein you will please find the University Site Selection Study for the Edmonton Area as prepared by the staff for the consideration of the Commission.

Respectfully submitted,

R N Giffen

R. N. Giffen
Executive Director

ELD/su

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FOREWORD

In May of 1967, the Director of the Edmonton Regional Planning Commission received a request from the Universities Commission of Alberta to examine likely sites in the Edmonton area for a possible second or satellite university campus.

In July 1967, the Edmonton Regional Planning Commission instructed its staff to initiate a study to obtain information as to suitable sites for a university development. Subsequently, this Study has been carried out as part of the Commission's program of studies leading to the realization of a total regional plan for the Edmonton area.

In this instance, the Study Area or area of search for university sites was confined to an area 20 miles in radius from the centre of Edmonton. It was felt that beyond the twenty-mile radius the sites would be either too distant from existing public services or would not serve the overall metropolitan population.

The initial approach taken to the Study was based on the consideration of two correlated parts concerning location:

1) General location: a consideration of such factors as physical barriers, existing and projected Provincial and area growth, present and future land use plans and communications
2) Specific locations: as well as the factors noted for the general locations, there was to be consideration given to the availability of services, the aesthetics of the sites and the present supply of housing

It was quickly apparent that one of the major problems of such a study would be the number of factors which will influence the final selection of a site. For example, a site which may rate extremely well from the point of view of economics, may be completely unrelated to the area in its function. Such an area might be required to completely re-adapt itself to the large

transient population of a university. Consequently, as a guide to selecting the sites, certain locational criteria were established.

The Study is divided into three parts: Part I furnished background principles from which the criteria for measuring the sites was determined. Part II surveys the Study Area for suitable sites. Much of the time spent in doing this part involved compiling relevant data from other Edmonton Regional Planning Commission studies. This broad search ended by reducing the possibilities to ten general site areas in five general locations. Part III of the Study analyses the ten sites in some depth and outlines their advantages and disadvantages.

The Study gives proper emphasis to the long range planning and future needs of the Edmonton region. Future land use proposals and transportation plans were given proper cognizance. The effect of such a major development upon the form and direction of growth in the metropolitan area has been recognized. For example, a decision to select a site within the confines or adjacent to the existing boundaries of the City of Edmonton will encourage more compact growth of the City, whereas a location further removed from the City will encourage a trend towards decentralization.

This Study is limited to proposing a number of suitable sites for a second campus or university in the Edmonton area. Further detailed study of the general sites selected, plus certain governmental policy decisions, must precede a consideration of a final university site.

The major work in the preparation of this Study was done by E.L. Dmytruk, Planner, B.A. (Econ.), assisted by other members of the staff of the Edmonton Regional Planning Commission.

ACKNOWLEDGEMENT

The Edmonton Regional Planning Commission gratefully acknowledges the assistance it received from individuals and public and private agencies in the preparation of this Study.

UNIVERSITY SITE SELECTION STUDY

EDMONTON AREA

PART I - BACKGROUND

A. The Need for a Second University Campus

The University of Alberta, first established in 1906, is situated within the City of Edmonton and is Alberta's largest university, serving approximately two-thirds of the total university level enrollment. The University grew at a constant rate until the late 1950's when the rising enrollment ratio, the population and economic boom in Alberta and, in particular the Edmonton area, created a need for the rapid expansion of the existing campus. At the same time the functions of the University were becoming increasingly complex, creating a demand for new and more courses, more sophisticated equipment and new buildings to house them. Consequently, a severe strain on the physical form of the university campus developed. The situation was further complicated since the campus had been fenced in by the development of the surrounding area. Vertical expansion followed and some activities relocated in nearby sections of the City. However, this did not meet the space shortage problem fully and more recently was followed by the acquisition of high priced land in the adjacent north-Garneau residential neighbourhood. Economics of expanding the university campus into built up land is proving to be expensive and led to the search for a site for a second university campus in the Edmonton area so as to relieve the enrollment pressures on the existing campus and to accommodate the future enrollment.

The existing University has an anticipated maximum of approximately 22,000 students.[1] Potential enrollment in the region under Edmonton's influence should reach this level by 1974 or 1975. Therefore, it becomes necessary for provision to be made for a new large autonomous university and/or a site must

---

[1] Source: Universities Commission of Alberta

be found for a smaller campus to serve as a satellite campus to the University of Alberta.

A new or satellite campus in Metropolitan Edmonton will be a major asset and should have beneficial effects on the City of Edmonton and the surrounding municipalities. Population growth will be further stimulated and business and industry will reap the benefits of the increased opportunities for a higher education available to the labour force.

B. Reason for University Location Planning

The new university campus, whether it evolves as an autonomous institution or remains a satellite to the existing University of Alberta, nevertheless, must be well located and properly developed. Foremost of all, it must be fully recognized that a university campus is not merely an aggregate of buildings within the boundaries of a site, but rather, that it is a land use that will affect the economic, social and physical development of the entire region. Development of such a facility must be co-ordinated with and be part of the existing and proposed official plans and zoning bylaws, transportation and roadways plans and land use plans. Based on previous studies, these plans give direction as to the possible future development of the Edmonton area.

The purpose of this Study is to assist and provide guidance to the Universities Commission of Alberta in selecting the best site for a second university campus by employing planning principles for evaluating sites and making available pertinent information. It is hoped that this Study will assist in avoiding previous problems experienced at the University of Alberta and other universities.

C. Definition of Study Area

The Study Area or area of search, also to be referred to as the Metropolitan Edmonton Complex (M.E.C.), is outlined on Figure 1 and consists of two parts: the Metropolitan Edmonton Area (M.E.A.), which coincides with the Metropolitan Part of the Preliminary Regional Plan; and, the Periphery Area. The limits of the Study Area extend approximately 20 miles in radius from the centre of the City of Edmonton and covers an area of 1,260 square miles. The Metropolitan Part of the Study Area covers an area of 390 square miles.

The following rural municipalities and counties are included within the Study Area: the M.D. of Sturgeon, County of Strathcona, County of Leduc and M.D. of Stony Plain. As well, the Study Area includes the City of Edmonton; the towns of Devon, Fort Saskatchewan, Leduc, Morinville, St. Albert and Stony Plain; and, the Village of Spruce Grove and the Hamlet of Sherwood Park.

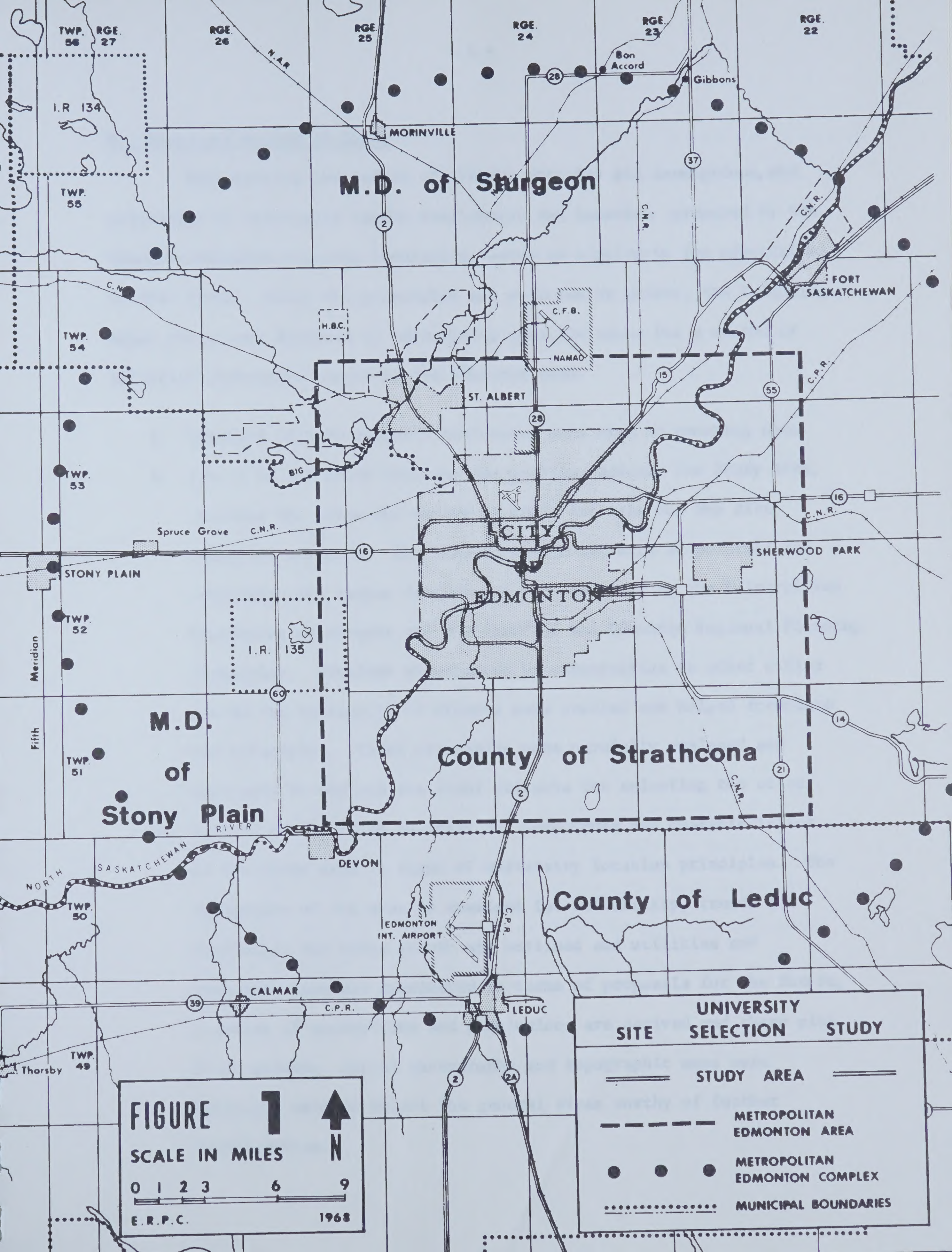
FIGURE 1

SCALE IN MILES
0 1 2 3 6 9
E.R.P.C.
1968
N
UNIVERSITY SITE SELECTION STUDY
STUDY AREA
METROPOLITAN EDMONTON AREA
METROPOLITAN EDMONTON COMPLEX
MUNICIPAL BOUNDARIES
M.D. of Sturgeon
M.D. of Stony Plain
County of Strathcona
County of Leduc
CITY EDMONTON
TWP. 56
TWP. 55
TWP. 54
TWP. 53
TWP. 52
TWP. 51
TWP. 50
TWP. 49
RGE. 27
RGE. 26
RGE. 25
RGE. 24
RGE. 23
RGE. 22
I.R 134
I.R. 135
N.A.R.
C.N.R.
C.P.R.
Bon Accord
Gibbons
MORINVILLE
FORT SASKATCHEWAN
C.F.B.
NAMAO
H.B.C.
ST. ALBERT
BIG LAKE
Spruce Grove
STONY PLAIN
SHERWOOD PARK
DEVON
NORTH SASKATCHEWAN RIVER
EDMONTON INT. AIRPORT
CALMAR
LEDUC
Thorsby
Fifth Meridian
2
2A
14
15
16
21
28
37
39
55
60

D. Scope and Method of Study

Universities Commission of Alberta policies and assumptions, and principles of university campus development and location prepared by the Edmonton Regional Planning Commission, serve as a guide to the preparation of this Study. Using the principles and policies as guides, the following major steps were followed in determining possible sites for a second or satellite university campus in the Edmonton area.

1. Standard library research techniques were used in securing data.
2. Part I of the Study outlines the problem, defines the Study Area, outlines the scope and method of study and sets out the site selection criteria. The site selection criteria or policies and principles for campus development were prepared by the Universities Commission of Alberta and the staff of the Edmonton Regional Planning Commission. Problems experienced by universities in other cities and by the University of Alberta were studied and helped formulate the principles. These principles were carefully analysed and were used to outline the final criteria for selecting the sites.
3. Part II of the Study analyses the components and characteristics of the Study Area in light of university location principles. The topography of the area is examined for suitability, trends for population and urban growth are outlined and utilities and transportation are considered in terms of proposals for the future. A series of assumptions and conclusions are derived and these plus field surveys, aerial photographs and topographic maps were initially used to select the general sites worthy of further consideration.

This Study is basically a working report and is designed primarily for use during development of the project. A final report dealing with detailed objectives and sites and supported by a more detailed analysis, which should include design proposals and costs, will be necessary. This procedure should determine the feasibility of selected sites from an architectural, economic and educational view as well.

E. Criteria for University Campus Development

The following criteria are not presented in order of importance or emphasis because of the difficulty in getting agreement on this matter.

1. Criteria Presented by the Universities Commission

(a) Size - 200 acres for a campus of 10,000 students
- 400 acres for a campus of 20,000 students or more
- restricted area for a campus with a more central location

(b) Physical Factors - cost of extending and providing utilities may be the most significant factor in the selection of the site.

(c) Accessibility - the site must be readily accessible by automobile and public transit to Edmonton as over half of the university's population will come from Metropolitan Edmonton and will be independent of the university for housing.

(d) Related Uses - some form of university housing will be useful for the control of the university's environs. Less than twenty-five per cent of the students would be housed in university residences.
- it is anticipated that the new university will be used extensively by part-time students taking both credit and non-credit courses in the evenings.

2. Principles of University Planning

Before it was possible to study the Metropolitan Edmonton Complex for university campus sites, it was first necessary to establish a standard for determining university campus locations and define environmental factors desirable for a university environment. This part of the Study sets these principles in general. The criteria for site selection and evaluation in Part III of the Study are derived from the principles outlined in this part.

(a) Relationship to the Centre of Population Distribution and Growth

The second university should be located near to the greatest concentration of population and future growth so that it may serve the greatest number of elegible students. The present and future enrollment potential must be considered.

(b) Joint Use of Related and Other Facilities

i) A large university should be located in or near a major metropolitan centre such as Edmonton because:

- faculty and students must be involved in the professional, business, governmental, recreational and cultural activities found in a major centre. Proximity to these activities is vital to teaching and research programs.
- opportunities exist for interchange of students and faculty and joint use of specialized laboratories and libraries. However, the areas of influence of the two universities should not conflict to the degree to which it would prevent each university from developing its own character.
- a large proportion of the student body are dependent upon the part-time employment opportunities available in a large centre.

ii) The university site should be in or near a residential environment and should offer a wide range of housing type for both student and faculty. Proximity to service, shopping facilities, churches, schools, parks and recreational facilities and employment potential is essential.

(c) Accessibility

i) The site should be located so that the travel time will be at a minimum for the maximum number of students.

ii) More than one major existing or projected route should serve the site so as to give access to a larger area and provide alternate routes. Caution should be exercised in locating the university campus on the same route as some other public facility that generates large volumes of peak hour traffic.

iii) Careful consideration must be given to future mass transportation plans. An express bus service could serve the site in the interim period until such time as a rapid transit facility proves to be feasible.

(d) Compatibility of Surroundings and Environment

i) The site should be free of air pollution, noise and other nuisances. In particular, the site should be removed from existing and projected heavy industry, highways with heavy truck traffic and airports and their flight paths.

ii) The university campus site should be a scenic place with a distinctive character. The features of the site should be conducive to good design and, if possible, the site should have historic association for better identification.

iii) Immediate proximity to large regional shopping centres and large industrial concentrations is undesirable from the standpoint of competition for residential accommodation and traffic conflict. This principle would not apply when establishing a downtown campus.

iv) Development of the site should conform with the zoning and subdivision regulations, official plans and any rights which others hold in the area.

v) The municipality in or near to where the university is to be located should be sympathetic towards a university location and should be prepared to provide the necessary facilities and co-operation.

(e) Effect on Surrounding Development and Economic Impact

i) The university should be located in a manner so as to encourage growth into the sector of the metropolitan area in which it is located. Therefore, land uses at the periphery of the university should be compatible to future residential uses. If the university is located adjacent to a built up residential area, the area should be such that if the zoning of the area is changed to a higher density, the area would not be adversely affected.

ii) To obtain the proper environment and to prevent unusual inflation or degradation of property values on the periphery of the university campus, consideration will have to be given to special control of land beyond the campus boundaries. Therefore, allowance should be made for a buffer strip of sufficient size between the presently built area and the campus proper and a measure of indirect

control or influence over this area should be exercised. A desirable buffer strip may be a reasonable walking distance to the campus in our climate; that is, 20 minutes. Therefore, at a walking speed of 3 miles per hour, a reasonable buffer strip over which the university could have control may be a radius of one mile.

iii) The site chosen for a university campus should have sufficient reserve land for unforseen uses and special research facilities.

iv) The effect of a university location in a municipality should not have a detrimental effect on the municipality. The municipality should be able to or be provided with the means to build the required additional roadways and services to serve the site.

(f) Adequacy of Site for Building Purposes and Servicing

i) The acquisition and development costs of the site should be reasonable. A site obtained at little or no cost may have greater long run development costs than a site which has to be purchased. The actual cost of the site is a minor factor relative to the development cost of the overall area and the total investment.

ii) The site should be located within the limits of the economical extension of existing or planned public utilities.

iii) The campus proper should not be fragmented and should be predominantly open. The overall site should not be subject to flooding or have soil conditions undesirable for building.

(g) Shape, Topography and Design Potential

i) The shape and topography of the site should lend itself to functional development.

ii) The shape of the campus proper should be quite regular and avoid a narrow and long form so as to minimize the walking distance.

iii) The university site should lend itself to the best building and landscape design available.

PART II

GENERAL ANALYSIS OF STUDY AREA COMPONENTS

A. Topography and Physical Features

Physical features have a direct impact on urban growth by influencing the economical provision of services and facilities. For example, flat land usually reduces street construction and residential building costs. However, hills provide more pleasing sites and offer opportunities for imaginative landscaping and architecture. Therefore, careful consideration should be given as to whether physical efficiency or a pleasing environment holds greater values in terms of a future university campus location and the ensuing urban growth.

1. The River Valleys

The North Saskatchewan River Valley diagonally bisects the Study Area into two nearly equal parts and is its most predominant physical feature. From the beginning it has served as an important influence on urban development in the Metropolitan Edmonton Area, particularly influencing such aspects as residential expansion, transportation and recreational uses. The River imposes an axis along which the surrounding towns should develop in the future. Basically, because of its natural assets, the Valley has served as an area of recreation, scenic drives, exciting views and as a greenbelt of natural vegetation. Several locations favourable to a university siting exist along this valley and they are outlined in Part III.

To the north of the North Saskatchewan River Valley lies the Lower Sturgeon River Valley. Although not as outstanding as the North Saskatchewan River Valley, this Valley has served as a

PART II

GENERAL ANALYSIS OF STUDY AREA COMPONENTS

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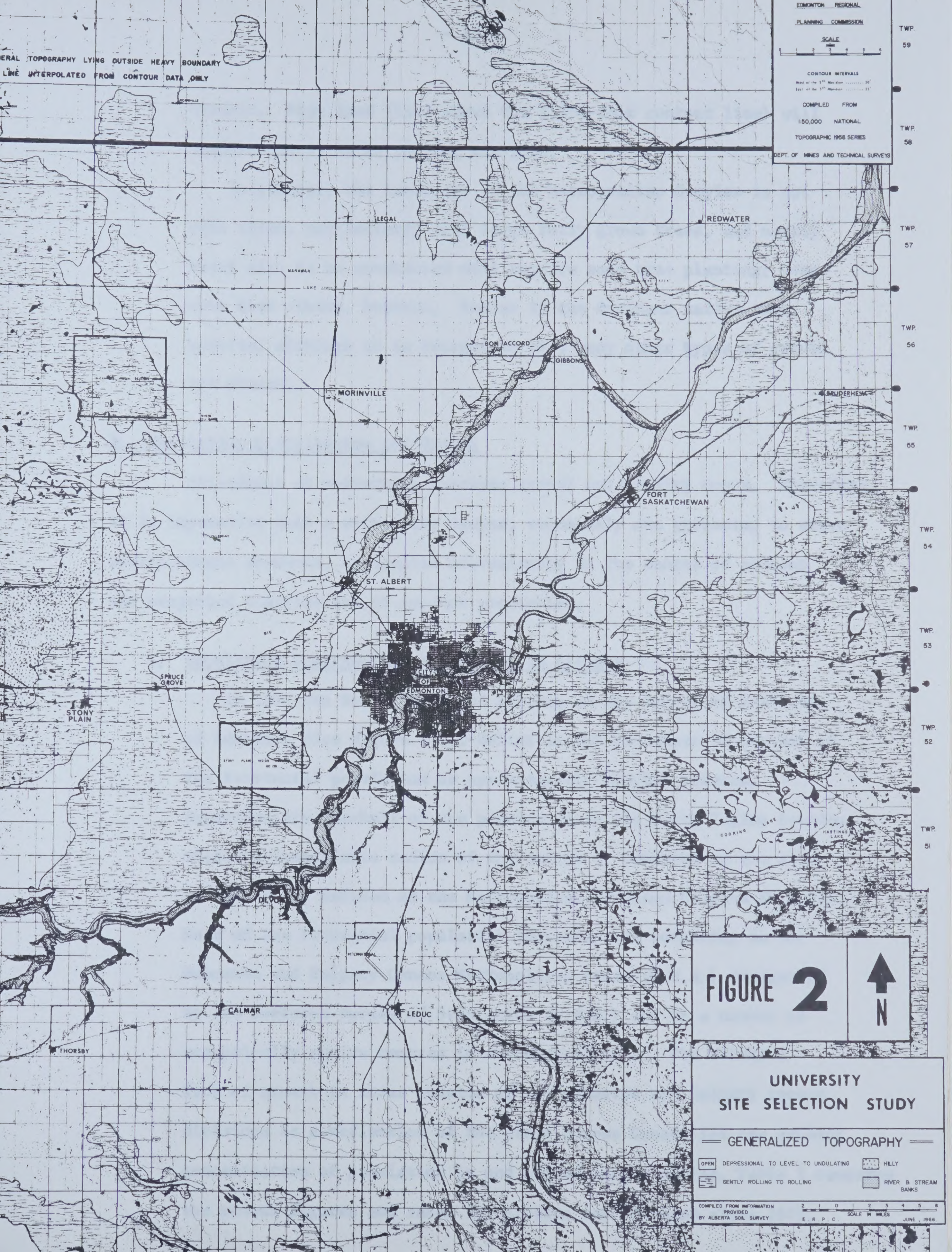
To the north of the North Saskatchewan River Valley lies the Lower Sturgeon River Valley. Although not as outstanding as the North Saskatchewan River Valley, this Valley has served as a natural recreational area for residents of Edmonton, St. Albert and the surrounding countryside. From Big Lake downstream the Sturgeon Valley becomes wider, being about 100 feet deep and one and one-half miles wide with the Sturgeon River meandering through it. Much of the tree cover remains along the valley and is mostly deciduous prairie parkland growth. A university campus site adjacent to this Valley would be offered similar advantages to those offered by the North Saskatchewan River Valley. Views, proximity to recreational areas and a greenbelt effect found here are all conducive to a university campus location.

2. Remainder of Study Area

Figure 2 shows the general topography of the Study Area. The Study Area is predominantly depressional to level to undulating and gently rolling to rolling in character gradually decreasing in elevation to the northeast. The higher elevations to the southwest and northwest allow some good views of the Edmonton skyline.

Depressional to level to undulating land is, in the main, good flat level land with no appreciable slopes and includes areas of poor drainage. Gently rolling to rolling land has slopes of five to fifteen percent and exhibits some problems for agricultural uses and road building. Proportionately very little hilly land exists and it is most evident in both the North Saskatchewan and Sturgeon River Valleys. Hilly land is land with slopes of more than fifteen percent and represents areas which would create problems for transportation planning and building construction.

Valley bottoms and bench lands are usually good for installing services. The bluffs and escarpments along the River Valleys will act as barriers to the extension of utilities, roads and rapid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EDMONTON REGIONAL
PLANNING COMMISSION
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East of the 5th Meridian .... 35'
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TOPOGRAPHIC 1958 SERIES
DEPT. OF MINES AND TECHNICAL SURVEYS
TWP. 59
TWP. 58
TWP. 57
TWP. 56
TWP. 55
TWP. 54
TWP. 53
TWP. 52
TWP. 51
LEGAL
REDWATER
MANAWAN LAKE
BON ACCORD
GIBBONS
MORINVILLE
BRUDERHEIM
FORT SASKATCHEWAN
ST. ALBERT
BIG LAKE
CITY OF EDMONTON
SPRUCE GROVE
STONY PLAIN
STONY PLAIN INDIAN RES. NO. 135
COOKING LAKE
HASTINGS LAKE
DEVON
EDMONTON INTERNATIONAL AIRPORT
CALMAR
LEDUC
THORSBY
N

FIGURE 2

UNIVERSITY
SITE SELECTION STUDY

GENERALIZED TOPOGRAPHY

OPEN	DEPRESSIONAL TO LEVEL TO UNDULATING	▨	HILLY
☰	GENTLY ROLLING TO ROLLING	▨	RIVER & STREAM BANKS

COMPILED FROM INFORMATION
PROVIDED
BY ALBERTA SOIL SURVEY

SCALE IN MILES
E.R.P.C.
JUNE, 1966.

transit. High land (land above the 2,250-foot contour line) will require costly water pumping services.

In general, the landscape of the Metropolitan Complex is not well treed, particularly with large fully grown trees, and nearly every site to be considered will require some tree planting; some more than others, however. Poplar is the dominant native tree species, although it is recognized that many other types of growth are present.

B. Population Distribution and Growth

Attendance at university involves travel and housing costs. Therefore, it is imperative that a university campus, especially one proposing to serve undergraduate students, is located conveniently to the centre of present and projected distribution of student population.

1. Population Distribution and Growth in Alberta

In 1966 the North Region of Alberta or the sphere of influence of Edmonton (See Figure 3 for delimitation) contained 60 percent of the Provincial population or approximately 878,000 persons. Approximately one-half of the population in the North Region resides within a twenty-mile radius of the centre of Edmonton or the area in this Study defined as the Metropolitan Edmonton Complex (M.E.C.). Most of the Provincial population increases are occurring in the Edmonton and Calgary Census Metropolitan Areas (C.M.A.) designated by the Dominion Bureau of Statistics (D.B.S.) and in a number of economically active centres in northern Alberta. The relative lack of growth in areas outside of the Edmonton and Calgary census divisions is a reflection of the trend across Canada for the growing concentration of population in and around larger cities. Table 1 compares the growth figures and rates for Alberta and Edmonton since 1951.

TABLE 1 POPULATION GROWTH FIGURES AND RATES, ALBERTA AND EDMONTON CENSUS METROPOLITAN AREA, 1951 - 1966

Year	Alberta	Percent Increase	Edmonton Census Metropolitan Area	Percent Increase	Edmonton C.M.A. as Percent of Alberta
1951	939,501		173,075		18
		42		95	
1961	1,331,944		337,568		25
		10		19	
1966	1,463,203		401,299		27

Source: D.B.S.

Table 2 compares population growth in the D.B.S. Census Divisions in Alberta. In the period 1951 to 1966 seven of eight and one-half census divisions allocated to the North Region increased in population. In the same period the South Region showed population increases in four of the six and one-half divisions. In the five-year period 1961 to 1966, a marked difference in population growth occurred in the two regions. In the south, only Census Division No. 6 containing the Calgary Census Metropolitan Area showed a population increase; however, population increases are evident in six census divisions in the North Region. Largest population increases in the North Region occurred in Census Division No. 11 containing the Metropolitan Edmonton Complex, in northwestern and northeastern Alberta, and in the Red Deer area.

The future distribution of population in Alberta will be determined largely by many socio-economic, physical, climatic and political factors. At present the strong population growth in the North Region reflects the resources development boom experienced there. A continuation of this trend is anticipated.

As a criteria for selecting a second university campus site, it will be assumed that the North Region will constitute at least 60.0 percent of the total population in Alberta in the future. This figure is an average of the distribution for the period from 1951 to 1966.

2. Non-Metropolitan Development Trends for the North Region

The Regional Rural Road Study prepared by the Edmonton Regional Planning Commission concludes that the rural farm population will continue to decline in response to a consolidation of farms into larger units. The townships bordering upon Edmonton and St. Albert have shown increases in densities, mainly due to the increasing popularity of country residences and smallholdings, while townships remote from major urban influences have remained static or have decreased in population density. The majority of the non-metropolitan towns are expected to show a gradual growth in population reflecting the demand for services from larger farm units and pockets of economic activity and exploration. The small villages and hamlets which are presently providing only limited service to a restricted surrounding area, may be by-passed in favour of larger centres as the regional transportation network improves. Certain of these small areas may stagnate or decline for this reason. On the other hand, more new towns are most certain to be developed as increased resource exploration will require the creation of new, more strategically located centres.

TABLE 2 POPULATION GROWTH FOR NORTH AND SOUTH

REGIONS OF ALBERTA BY CENSUS DIVISIONS, 1951 - 1966

REGION	1951	1956	1961	1966
SOUTH				
Division No. 1	28,317	34,496	39,140	38,858*
Division No. 2	67,694	74,991	83,306	82,719*
Division No. 3	27,667	30,426	30,967	29,592*
Division No. 4	13,182	14,294	15,020	14,224*
Division No. 5	39,055	38,120	38,115	35,987
Division No. 6 (Calgary Area)	177,441	237,886	317,989	369,140**
Pt. of Division No. 9	16,374	15,765	16,867	15,225
Total	369,730	445,978	541,404	585,745
NORTH				
Division No. 7	40,217	40,214	40,837	40,833*
Division No. 8	57,513	64,168	76,533	83,912**
Pt. of Division No. 9	3,122	2,474	3,407	2,970
Division No. 10	70,677	71,500	70,177	70,211**
Division No. 11 (Edmonton Area)	235,475	323,539	410,679	476,053**
Division No. 12	39,886	44,947	47,310	50,635**
Division No. 13	46,638	45,033	45,431	44,142
Division No. 14	14,443	15,846	19,282	20,358**
Division No. 15	61,800	70,417	76,884	88,344**
Total	569,771	678,138	790,540	877,458
North Region % of Total Provincial Population	60.6%	60.3%	59.4%	60.0%

* Census Divisions showing population increases in period 1951 - 1966 only.

** Census Divisions showing population increases in period 1961 - 1966 and 1951 - 1966.

Source: D.B.S.

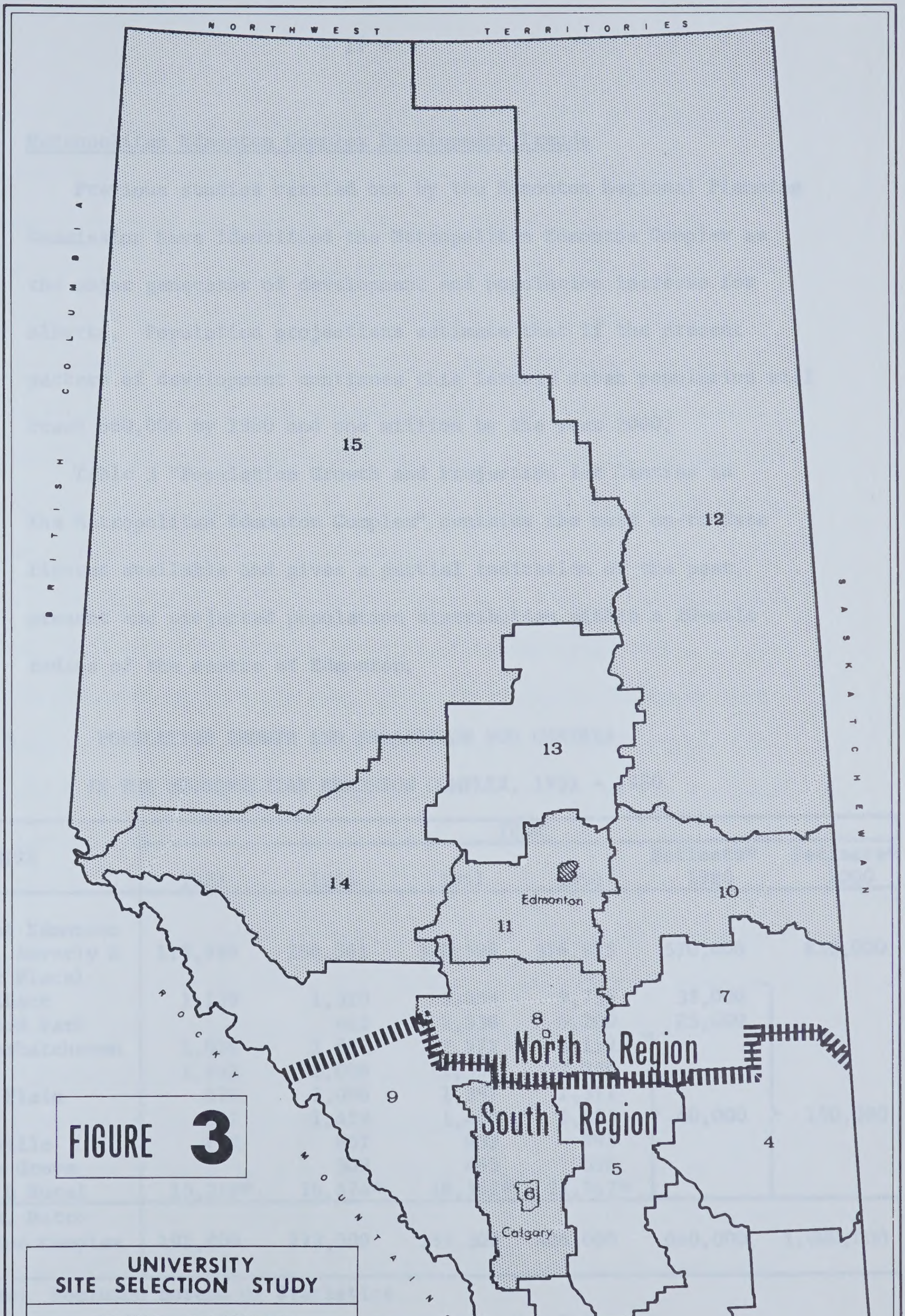
NORTHWEST TERRITORIES
BRITISH COLUMBIA
SASKATCHEWAN
MONTANA
ROCKY MOUNTAINS
15
12
13
14
10
11
Edmonton
8
7
North Region
South Region
9
4
5
6
Calgary
2
1
3
CENSUS DIVISIONS
NORTH-SOUTH REGION DIVIDING LINE
1961-1966 INCREASE IN POPULATION

FIGURE 3

UNIVERSITY SITE SELECTION STUDY

E.R.P.C. 1968

Source : Dominion Bureau Of Statistics

3. Metropolitan Edmonton Complex Development Trends

Previous studies carried out by the Edmonton Regional Planning Commission have identified the Metropolitan Edmonton Complex as the major generator of development and population increase for Alberta. Population projections estimate that if the present pattern of development continues this largely urban population will reach 660,000 by 1980 and one million by the year 2000.

Table 3 "Population Growth and Projection for Centres in the Metropolitan Edmonton Complex" contains the most up-to-date figures available and gives a partial indication of the past, present and projected population distribution within a 20-mile radius of the centre of Edmonton.

TABLE 3 POPULATION GROWTH AND PROJECTION FOR CENTRES IN THE METROPOLITAN EDMONTON COMPLEX, 1951 - 1980

CENTRE	YEAR					
	1951	1956	1961	1966	Estimate* 1980	Estimate* 2000
City of Edmonton (Incl. Beverly & Jasper Place)	170,929	246,561	320,598	376,925	570,000	850,000
St. Albert	1,129	1,320	4,059	9,736	35,000	150,000
Sherwood Park		462	2,538	6,200	25,000	
Ft. Saskatchewan	1,076	2,582	2,972	4,152	40,000	
Leduc	1,842	2,008	2,356	2,856		
Stony Plain	878	1,098	1,397	1,311		
Devon	842	1,429	1,418	1,283		
Morinville	892	957	935	995		
Spruce Grove		309	465	598		
Other & Rural	15,212*	16,574*	18,562*	21,967*		
Approx. Metro Edmonton Complex Total	192,800	273,300	355,300	426,000	660,000	1,000,000

Sources: Dominion Bureau of Statistics

Edmonton Regional Planning Commission, M.E.T.S. and Regional Roads Study Planning Report for Area No. 8

* Estimates - Edmonton Regional Planning Commission

The population growth pattern within the City of Edmonton is following a course developed a decade or so ago. Residential development is progressing along the northeast/southwest axis paralleling the North Saskatchewan River. Significant population increases are evident in central Edmonton due to new apartment developments. With the exception of central Edmonton, other aging predominantly single family areas of the City have been declining in population.[1] In general, this trend may be attributed to the younger population in the older areas growing up and moving to the central apartment districts or the new suburbs.

Developments in the suburban areas have shown a characteristic of their own. The City of Edmonton, Planning Department , "Residential Land Use Staging 1967 - 1971" report indicates that more recently since 1962 there has occurred a definite trend for new development to be shifting from the northeast to the southwest part of Edmonton. This may be attributed, in part, to Edmonton's recent expansion policies which emphasized the southwest. It is difficult to determine how long the present course will continue and will largely depend on the relative availability of serviced land for development and steps taken by the City to maintain existing trends. It should be noted, however, that southwest Edmonton at present offers greater amenities to residential development including such features as: close proximity to major parks, an interesting topography, limited nuisance factors and sufficient open land or land free of intensive non-compatible uses.

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[1] City of Edmonton, Planning Department, Residential Land Use Staging, 1967-71, June 1967.

In addition, because of the topographic nature of the southwest and the views, the southwest riverbank and ravine areas have been developing as small residential estates and the long term view is that such development will increase.

In summation, based on future land use, topographic features, projected population growth to the northeast, southwest, northwest and centre of Edmonton, it may be concluded that the population centre of the Metropolitan Edmonton Complex will move to the west and slightly to the south by 1980. It should be emphasized, however, that this assumption is based on current projections and conditions. Any major changes, such as the construction of a major plant, the conversion of the Industrial Airport into a major residential complex or the location of the second university in a given sector, will have a very significant effect on the location of the future centre of population.

4. Distribution of Potential University Student Population

Projections of enrolments for Alberta presented in Table 4 were derived from forecasts made by the Universities Commission.

TABLE 4 UNIVERSITY-LEVEL ENROLMENT PROJECTIONS FOR ALBERTA FULL TIME STUDENTS

School Year	Alberta	U of A % of Total	Calgary	Lethbridge	TOTAL
1966-1967	11,489	73.7	4,108	-	15,597
1967-1968	13,027	70.0	4,980	638	18,645
1968-1969	14,200	66.8	6,060	1,000	21,260
1969-1970	15,525	65.2	7,135	1,150	23,810
1970-1971	16,705	63.3	8,390	1,300	26,395
1971-1972	18,080	61.5	9,760	1,450	29,390
1972-1973	19,525	61.0	10,900	1,600	32,025
1973-1974	20,975	60.0	12,180	1,750	34,905
1974-1975	22,000 + Second University	60.0	13,500	1,900	38,000

Source : Staff of Universities Commission of Alberta and Edmonton Regional Planning Commission

Table 4 indicates that during 1974 or 1975 the anticipated maximum enrolment of 22,000 full-time students for the University of Alberta will be attained. These estimates do not include adult evening courses, which are becoming increasingly popular, nor do they take into consideration a change in the mode of student travel to the campus. For example, the use of rail rapid transit could reduce the use of automobiles and consequently would release some of the space used for parking for classroom purposes. By 1973 the proportion of enrolments at the three universities should equal the proportions of the North Region and South Region population split of 60 percent and 40 percent respectively. It is assumed that beyond 1973 the South universities (Calgary and Lethbridge) and North universities (Alberta and new institutions) will maintain the 40 percent and 60 percent enrolment ratios which should also be the Provincial South Region - North Region population ratio if the average of the 1951 to 1966 period is maintained.

The number and distribution of potential students within the total Metropolitan Edmonton Complex or in a single neighbourhood unit will vary with the age of the population. New neighbourhoods or growing towns, in general, go through various cycles of development based largely on their age and degrees of development. New neighbourhoods or towns usually have a university student population ratio well below average which in time shifts to far above average and then reverts back to a below average level or a stablizing level. This explains, in part, why in 1966 there were more students at the University of Alberta from the Town of Fort Saskatchewan than the relatively

new Town of St. Albert which had more than double the population of Fort Saskatchewan. Similar relationships have been experienced in elementary and secondary schools and, as has been exemplified, continues for universities and colleges. A relationship of this type may be useful in forecasting demand for a university in a given sector in the metropolitan area. Furthermore, it should be noted that nearly half of the new university enrolment will not be derived entirely from the Metropolitan Complex, but that it will come from other areas of Alberta, Canada and the world. In the 1966-67 academic year, approximately 50 percent of the full-time student enrolment at the University of Alberta, came from outside of the Metropolitan Edmonton Complex. These students will usually desire to locate near the institution or in areas where rental housing is available.

C. Urban Growth, Land Use and Zoning

1. The Peripheral Part - Metropolitan Edmonton Complex

The Peripheral Part of the Study Area is sparsely settled, containing less than 10 percent of the population for the entire Metropolitan Edmonton Complex. The significant land use is agriculture, the intensity of its use varying with soil and topographic conditions. The Peripheral Part should remain predominantly agricultural with intensity of the use increasing to satisfy the demands as the population increases. It is anticipated that the amount of agricultural land will decrease progressively as expansion of non-agricultural uses takes place.

The Towns of Fort Saskatchewan, Leduc, Stony Plain, Devon and Morinville are the major population centres. In addition,

significant semi-urban development, in the form of country residences, is quite evident adjacent to the North Saskatchewan River. Other major non-agricultural uses include the Canadian Forces Base - Namao and the Edmonton International Airport. The railway routes were responsible for the original growth pattern and in the future it will be the improving highway network that will influence the pattern of future expansion as new industries are established and new people seek alternate places in which to live. With the completion and upgrading of Highways 2, 28, 15 and 16 the Towns and Villages in the entire Metropolitan Edmonton Complex will have an opportunity to expand. (See Figure 4 for illustration showing general land uses)

2. The Metropolitan Area - Metropolitan Edmonton Complex

In the centre of the expanding Metropolitan Edmonton Complex is the Metropolitan Edmonton Area, a land area hugging the North Saskatchewan River and conforming closely to the boundaries of the Metropolitan Part of the Preliminary Regional Plan and the D.B.S. Census Metropolitan Area. There are five political jurisdictions, including the City of Edmonton, St. Albert, the M.D's of Sturgeon and Stony Plain and the County of Strathcona. Each of these municipalities has its own zoning and land use regulations. For example, the Town of St. Albert has a zoning bylaw while the County and the Municipal Districts fall under a development control bylaw and the City of Edmonton has a partial zoning bylaw. Where applicable the Metropolitan and Highways Parts of the Preliminary Regional Plan supersede the development control bylaws. While each of these political jurisdictions

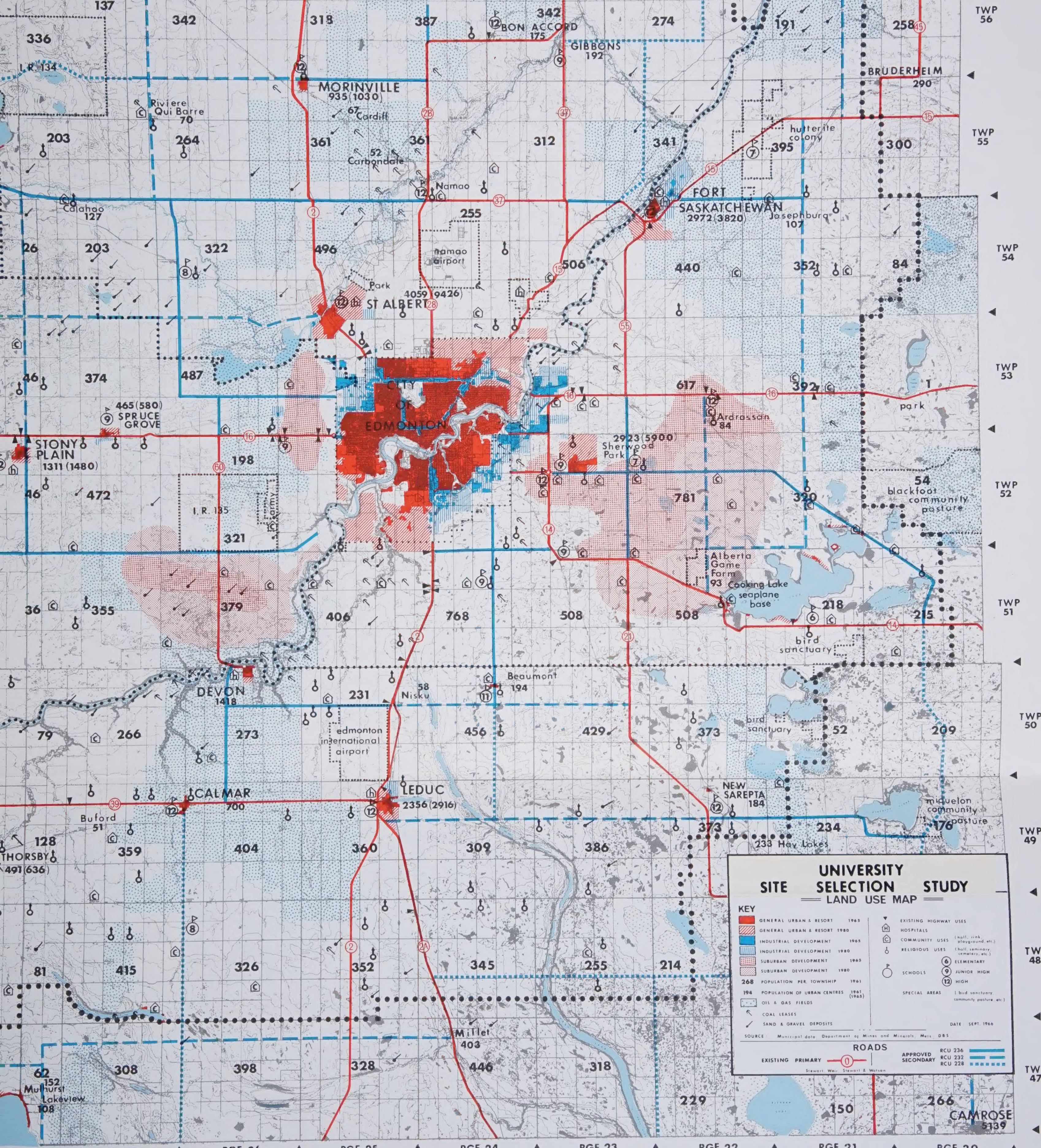

UNIVERSITY
SITE SELECTION STUDY
LAND USE MAP
KEY
GENERAL URBAN & RESORT 1965
GENERAL URBAN & RESORT 1980
INDUSTRIAL DEVELOPMENT 1965
INDUSTRIAL DEVELOPMENT 1980
SUBURBAN DEVELOPMENT 1965
SUBURBAN DEVELOPMENT 1980
268 POPULATION PER TOWNSHIP 1961
194 POPULATION OF URBAN CENTRES 1961 (1965)
OIL & GAS FIELDS
COAL LEASES
SAND & GRAVEL DEPOSITS
EXISTING HIGHWAY USES
HOSPITALS
COMMUNITY USES (hall, rink, playground, etc.)
RELIGIOUS USES (hall, seminary, cemetery, etc.)
SCHOOLS
6 ELEMENTARY
9 JUNIOR HIGH
12 HIGH
SPECIAL AREAS (bird sanctuary, community pasture, etc.)
DATE SEPT. 1966
SOURCE Municipal data Department of Mines and Minerals Mets DBS
ROADS
EXISTING PRIMARY
APPROVED SECONDARY
RCU 236
RCU 232
RCU 228
Stewart Weir Stewart & Watson
TWP 56
TWP 55
TWP 54
TWP 53
TWP 52
TWP 51
TWP 50
TWP 49
TWP 48
TWP 47
CITY OF EDMONTON
ST ALBERT 4059 (9426)
FORT SASKATCHEWAN 2972 (3820)
MORINVILLE 935 (1030)
BON ACCORD 175
GIBBONS 192
BRUDERHEIM 290
Josephburg 107
hutterite colony
Cardiff 67
Carbondale 52
Namao
namao airport
Riviere Qui Barre 70
Calahoo 127
I.R. 134
I.R. 135
Park
SPRUCE GROVE 465 (580)
STONY PLAIN 1311 (1480)
Sherwood Park 2923 (5900)
Ardrossan 84
Alberta Game Farm 93
Cooking Lake seaplane base
bird sanctuary
blackfoot community pasture
park
DEVON 1418
Nisku 58
Beaumont 194
edmonton international airport
LEDUC 2356 (2916)
CALMAR 700
Buford 51
THORSBY 491 (636)
NEW SAREPTA 184
miquelon community pasture
Hay Lakes 233
Millet 403
Mulhurst 152
Lakeview 108
CAMROSE 5139

FIGURE 4

maintain their own regulations they, nevertheless, follow a unified approach to all planning problems through membership in the Edmonton Regional Planning Commission. Following is a more detailed description of the land uses in the Metropolitan Area:

(a) Land Use

A detailed land use survey of the Metropolitan Area has been completed by the Edmonton Regional Planning Commission and the data is being mapped. The City of Edmonton Planning Department completed a detailed land use survey for Edmonton in 1965 and proposed a 1981 land use for Edmonton in their General Plan. The Metropolitan Part of the Preliminary Regional Plan and the General Plan for Edmonton show existing and future land uses in general. The land use plans to 1980 are largely an extension of the current and past growth pattern. These plans can be adjusted to meet the demands of the future expansion not presently envisioned. For the purposes of this Study, examination of specific land uses will be done under a number of major categories:

i) Agricultural Land

Major agricultural areas are located around the General Urban, Recreational and Industrial land. This agricultural land, now at the fringe of the General Urban and Industrial Land, serves as reserve land for future urban uses and will be consumed as the urban area expands and as the need to convert this land to other uses arises. In general, the Metropolitan Part of the Preliminary Regional Plan permits agricultural, recreational and public utilities uses in this zone. In the future agricultural land will be

under mounting pressures for subdivision for both real and speculative urban and industrial purposes.

ii) Residential Land

Because of a growing economy, Metropolitan Edmonton attracts thousands of new residents each year. The demand for new homes is high and this is evidenced by the large scale residential development that has taken place over the past two decades. Prior to 1960, the pattern of growth followed a regular grid expansion outwardly from the centre of Edmonton. More recently new growth has shown a definite expansion towards the centre, in a northeasterly and a southwesterly direction, generally paralleling the River Valley. Significant growth has also taken place in St. Albert and Sherwood Park.

The availability of suitable land and the relative ease of extending utilities to the northeast and southwest of Edmonton should attract the major portion of future low density residential land in these directions. Greater high density development is also projected for central Edmonton. A significant but lesser amount of residential development may take place along the Sturgeon River Valley particularly to the north, northeast and southwest of the present town of St. Albert and in Sherwood Park. The M.E.T.S. envisions such growth to take place until the M.E.C. population reaches about 840,000.

But just as the period preceding 1980 emphasizes development within the Metropolitan Area, in the ensuing period greater emphasis may have to be given to changing the course and thus preventing congestion of activities and transportation. This may lead to the development of satellite towns in the Complex and beyond. This form of development is presently being experienced by a number of Canadian and U.S. metropolitan centres and its acceptance for Edmonton will largely depend on the location of major industrial concentrations, major educational and research centres and transportation networks.

iii) Commercial Land

The heart of the Metropolitan Complex is the central business district of Edmonton with its department stores, offices, specialty shops, hotels and motor hotels, theatres and places of entertainment.

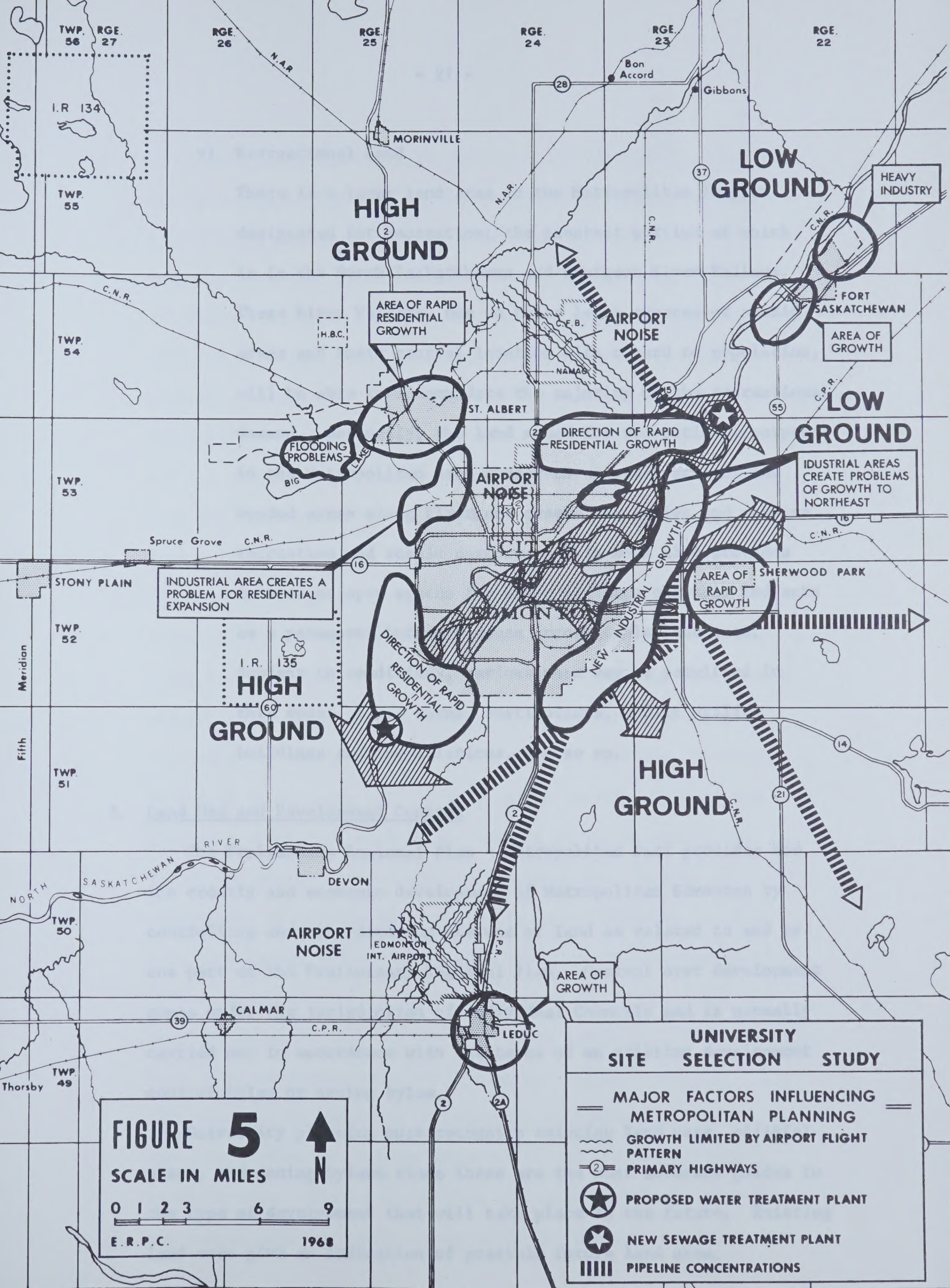
In addition to the central business district commercial, Edmonton has several major strips of "strip commercial" along major routes leading into the central business district. Some more important commercial strips are located on Whyte (82) Avenue, Stony Plain Road and 124 Street in west Edmonton, 118 Avenue and the Fort Trail in east Edmonton and in St. Albert.

More recently the trend in suburban community development and the increased use of the automobile has created a number of decentralized regional shopping centres. Seven planned regional shopping centres exist and are well distributed and serve every part of Edmonton. An additional

regional shopping centre is to be constructed in south Edmonton by 1970. Furthermore, smaller centres which serve a region of their own exist in St. Albert and Sherwood Park.

iv) Industrial Land

Original industrial development in the Metropolitan Area took place adjacent to the railroads. These areas have since developed as major industrial zones of Metropolitan Edmonton. In the early 1950's, stimulus to industrial development occurred when oil was discovered near Leduc and major petro-chemical industries located in the eastern part of the Metropolitan Area. Today the Metropolitan Edmonton Complex is one of Canada's leading petro-chemical industrial areas. In addition to the heavy industrial areas to the east, concentrations of light industrial uses exist in other parts, notably in northwest Edmonton and along the railroad in northeast Edmonton. The future land use pattern for industrial development will be influenced by: major highways and railroads; the availability of land; and, zoning. The major area of industrial development is the southeast quadrant of the Metropolitan Area and is bounded on the west by Highway #2 , on the northeast by the North Saskatchewan River and on the west and northwest by the residential areas of Edmonton. Basically, the existing industrial development will limit the extent of the residential and institutional uses that will be provided nearby. (See Figure 5 for a schematic illustration showing major factors influencing metropolitan land use planning.)


TWP. 56
RGE. 27
RGE. 26
RGE. 25
RGE. 24
RGE. 23
RGE. 22
N.A.R.
I.R. 134
Bon Accord
Gibbons
MORINVILLE
TWP. 55
HIGH GROUND
LOW GROUND
HEAVY INDUSTRY
C.N.R.
FORT SASKATCHEWAN
AREA OF GROWTH
AREA OF RAPID RESIDENTIAL GROWTH
H.B.C.
TWP. 54
C.F.B.
NAMAO
AIRPORT NOISE
ST. ALBERT
DIRECTION OF RAPID RESIDENTIAL GROWTH
LOW GROUND
FLOODING PROBLEMS
BIG LAKE
TWP. 53
AIRPORT NOISE
IDUSTRIAL AREAS CREATE PROBLEMS OF GROWTH TO NORTHEAST
Spruce Grove
C.N.R.
STONY PLAIN
CITY
EDMONTON
INDUSTRIAL AREA CREATES A PROBLEM FOR RESIDENTIAL EXPANSION
NEW INDUSTRIAL GROWTH
AREA OF RAPID GROWTH
SHERWOOD PARK
TWP. 52
I.R. 135
HIGH GROUND
DIRECTION OF RAPID RESIDENTIAL GROWTH
Fifth Meridian
TWP. 51
HIGH GROUND
HIGH GROUND
RIVER
NORTH SASKATCHEWAN
DEVON
TWP. 50
AIRPORT NOISE
EDMONTON INT. AIRPORT
C.P.R.
AREA OF GROWTH
CALMAR
C.P.R.
LEDUC
TWP. 49
Thorsby
2
2A
14
15
16
21
28
37
39
55
60

UNIVERSITY SITE SELECTION STUDY

MAJOR FACTORS INFLUENCING METROPOLITAN PLANNING

- 〰 GROWTH LIMITED BY AIRPORT FLIGHT PATTERN
- ② PRIMARY HIGHWAYS
- ★ PROPOSED WATER TREATMENT PLANT
- ✪ NEW SEWAGE TREATMENT PLANT
- ||||| PIPELINE CONCENTRATIONS

FIGURE 5

SCALE IN MILES 0 1 2 3 6 9

N

E.R.P.C. 1968

v) Recreational Land

There is a large land area in the Metropolitan Complex designated for recreation; the greatest portion of which is in the North Saskatchewan and Sturgeon River Valleys. These River Valleys, due to their large expanse of scenic areas and their central location with regard to population, will be able to accommodate the majority of the recreational demand. Basically, the land zoned for recreational purposes in the Metropolitan Area conserves natural parkland and wooded areas along rivers and creeks for active and passive recreation and scenic purposes. This zone also provides continuous open spaces for major drainage channels and acts as a permanent buffer between incompatible land uses. Subject to conditions, various uses may be permitted in this zone: i.e., farms, institutions, public utility buildings and installations, and so on.

3. Land Use and Development Control

The Preliminary Regional Plan - Metropolitan Part provides for the orderly and economic development of Metropolitan Edmonton by controlling and co-ordinating the use of land as related to and as one part of the Preliminary Regional Plan. Control over development comes under the jurisdiction of individual Councils and is normally carried out in accordance with the terms of an existing development control bylaw or zoning bylaw.

University planning must recognize existing land uses, official plans, and zoning bylaws since these are the most accurate guides to the type of development that will take place in the future. Existing land uses give an indication of possible future land uses.

A university campus in the Metropolitan Edmonton Complex will create a number of special land use control problems. At present, a university campus is treated as an "institutional use" and is normally permitted in or adjacent to residential uses. However, the establishment of a new university site is expected to have a profound influence on surrounding land uses and consequently some form of university oriented control of the surrounding area is required. For example, by merely studying the existing University of Alberta and its effects on surrounding land uses one can visualize the problems that may follow if the new campus is not planned with the future in mind. Almost instantly a university campus will create a demand for a variety of off-campus student and faculty housing, fraternity and sorority houses, apartment and rooming houses and a university business district. This might be followed by requests for zoning changes and conversions of single family housing into fraternity or rooming houses. Adding to the problems, traffic movements in the area will be increasing. Large parking areas or parking garages will have to be reserved at the perimeter and public transportation and good access provided. It must be recognized, therefore, that university campus planning involves more than merely the selection of a site and the preparation of a campus development plan. Co-ordination of all interested groups is vital in order that the new university campus and the surrounding land uses and development may be planned to create the best environment. For example, it may prove desirable to locate a university business district adjacent to the university campus academic core. Similarly, married and single students housing and campus parking should be within 10 to 20 minutes walking time

of the core. It may also be necessary to make provision for major athletic facilities for students and a research district to serve the needs of commerce and industry. Experience at the University of Alberta and other universities has shown that high or medium density residential uses adjacent to the university could be the most desirable use with sufficient allotment for single family housing for staff and faculty. The research and athletic facilities on the one side and high and medium density university related housing on the opposite side of the campus could serve to control the university's environs. Therefore, it is emphasized that it is not only the land reserved for the campus that will be altered in use drastically, but also acres of land surrounding the academic core.

Considering the factors mentioned and because rapid development is expected to follow the selection of a site for a university campus and because it is imperative that a proper environment exists beyond the campus boundary, it will be most desirable if action is taken at the earliest time to impose firm control on the development of surrounding lands. Several methods of control are available and briefly they are:

i) Outright ownership of surrounding lands. This would permit the university to control the type, location and timing of development. As considerable profits are expected from the sale or lease of land surrounding the campus and because increases in land values would largely result from the university's choice of the site, it seems logical to allow the taxpayer of Alberta to benefit, rather than a few landowners.

ii) Purchase of development rights to the surrounding lands while retaining private ownership of the land. Utilizing this method, the university would control the timing of each development and the right to review the design.

iii) The land surrounding the campus could be zoned "university related district" under the Regional Plan, Metropolitan Part or a municipal zoning bylaw. Some form of university related zoning or development control should apply to every new university and could still be applied around the existing University of Alberta. Following are some examples of what other cities have done in this field.

In 1962 Ann Arbor in its proposed zoning bylaw "placed the University of Michigan property in a special district called the Public Lands District.[1] Other examples include an Educational and Cultural District in Annapolis, Md. and "...the zoning ordinance in Princeton, New Jersey creates a zone that covers both the campus grounds and surrounding land area ...."[2] Extensive provisions are contained in the Evaston zoning ordinance (1960) which provides for three separate University Districts. The provisions not only differentiate between the campus and surrounding areas, but the various University Districts (U-1, U-2 and U-3) are applied differently to the two major educational

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[1] A.S.P.O. Planning Advisory Service, Report No. 178, Copyright 1963, American Society of Planning Officials.

[2] Ibid.

institutions in the City.[1] The University of California adopted a "Planning Area" concept for its campus on the Irvine Ranch in Orange County. An entire university community was designated as a "Planning Area" and an "Area Planning Commission" consisting of members representative of the area, including representation from the university, was appointed by the County Board of Supervisors. The Area Planning Commission was responsible for implementing a master land use plan for the area. This Planning Area is classified as a "Planned Community District" in the Orange County Land Use Plan and this would permit development of various kinds of uses in accordance with the master plan. "Such a classification would not provide for specific land uses but would permit development of various kinds of uses in accordance with the master plan. Use permits are customarily issued by the Orange County Planning Commission. However, it would be possible for the County to delegate authority for issuing use permits to the Area Planning Commission. The County Planning Commission and the Board of Supervisors would then be relieved of the detailed administration of planning affairs in the community. The Board of Supervisors would retain legislative jurisdiction and would remain responsible for making decisions on major policy, on matters submitted to them on appeal, or on matters at variance with the approved master plan."[2]

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[1] Ibid, p. 30

[2] William L. Pereira and Associates, Second Phase Report for a University - Community Development in Orange County, Los Angeles.

At such time when the community becomes incorporated the responsibilities of the Area Planning Commission would be assumed by the community's own planning commission.

Summary

Various methods could be used to control the actual development of the community and these are described throughout this section of the report. By adopting either the sale or lease of land methods or through ownership of development rights, the university could excercise absolute control over the ultimate development of the land. The method of control that is eventually adopted will depend on whether an urban satellite or suburban campus is decided upon. If a suburban campus site is selected, a decision will have to be made as to whether the university should merely control some of the surrounding land or whether a "university community" should be created either in the form of a "new town" or under a "development scheme" available to municipalities under the Planning Act. A development scheme is a very useful part of the planning process since it allows for considerable flexibility in carrying out a comprehensive development. A detailed discussion of this subject is beyond the scope of this report and it is recommended that a separate, more comprehensive report be prepared dealing with the subject of implementation and land use control.

D. Transportation

This section outlines, examines and evaluates the existing and planned roadways in the Study Area. The commuter train and mass rapid transit, as a form of transportation, are also considered.

1. Existing Rural Roads

The Regional Rural Road Study prepared by the Edmonton Regional Planning Commission concludes that rural residents in the Edmonton area are well served with local access roads. In the vicinity of the City of Edmonton, the local road system lacks paved roads, especially adjacent to the industrial subdivisions. The implementation of the program outlined in the Regional Rural Road Study should ensure an adequate rural roadways network. The population centres within the Metropolitan Edmonton Complex are fairly well served by primary highways, although the majority of the existing highways should be upgraded to attain higher and safer standards. At present, five primary highways lead directly into the Metropolitan Edmonton Area while numerous other roads intersect or connect to these five, providing all weather connections between most regional communities and the Metropolitan Area. The future plans for primary highways envision a major upgrading of the present primary highway system to freeway standards with route directions remaining essentially the same as they are.

2. Existing and Proposed Metropolitan Roadways

A major land user such as a university campus is expected to generate large volumes of traffic. Because the university is most likely to be located in the Metropolitan Edmonton Complex,

it is the metropolitan road system which will be the dominant system of circulation and will have a direct bearing on the efficiency with which the majority of the population will be moved to and from the university campus. A description of the presently assessed position of each of the roads in metropolitan road planning, as outlined in the Regional Rural Road Study and the Metropolitan Edmonton Transportation Study, follows. For accompanying illustration see Figure 6.

1 - The extension of Highway 16A eastward past the north side of Sherwood Park. The priority of construction of this road will depend upon the need for an alternate route from this community to Edmonton and the future plans of the Department of Highways for giving improved access to the City from Highways 16E, 55, 14 and 21.

2 - This is the extension of the Quesnell Freeway. It is of low priority and will depend upon the extent of urban expansion into this area to establish its need.

3a & 3b - These two roads are the proposed connections from Highway 2 south, to the freeway system of Edmonton. Decisions by the Department of Highways in regard to the alignment and improvement of Highway 2 south indicate that the south half of these proposed alignments will likely be changed.

4 - This road, which is commonly known as a correction line, is not included in the secondary system because of plans for restricting access to Highway 2 at this point and it is now considered a local road.

5 - This road is considered as a future connection from the southwest freeway to Highway 39 and then to Highway 2, south of Leduc. The anticipated need for such a connection is dependent upon the growth of Edmonton.

6 - This is a section of the outer by-pass road on the southwest. The section from Highway 2 to the North Saskatchewan River is presently an important local road providing a connection to major roads in the developing southwest part of the City. Future plans for this freeway indicate that there may be a need to move its alignment further south to facilitate the obtaining of right-of-way. This road is of relatively low priority under M.E.T.S.

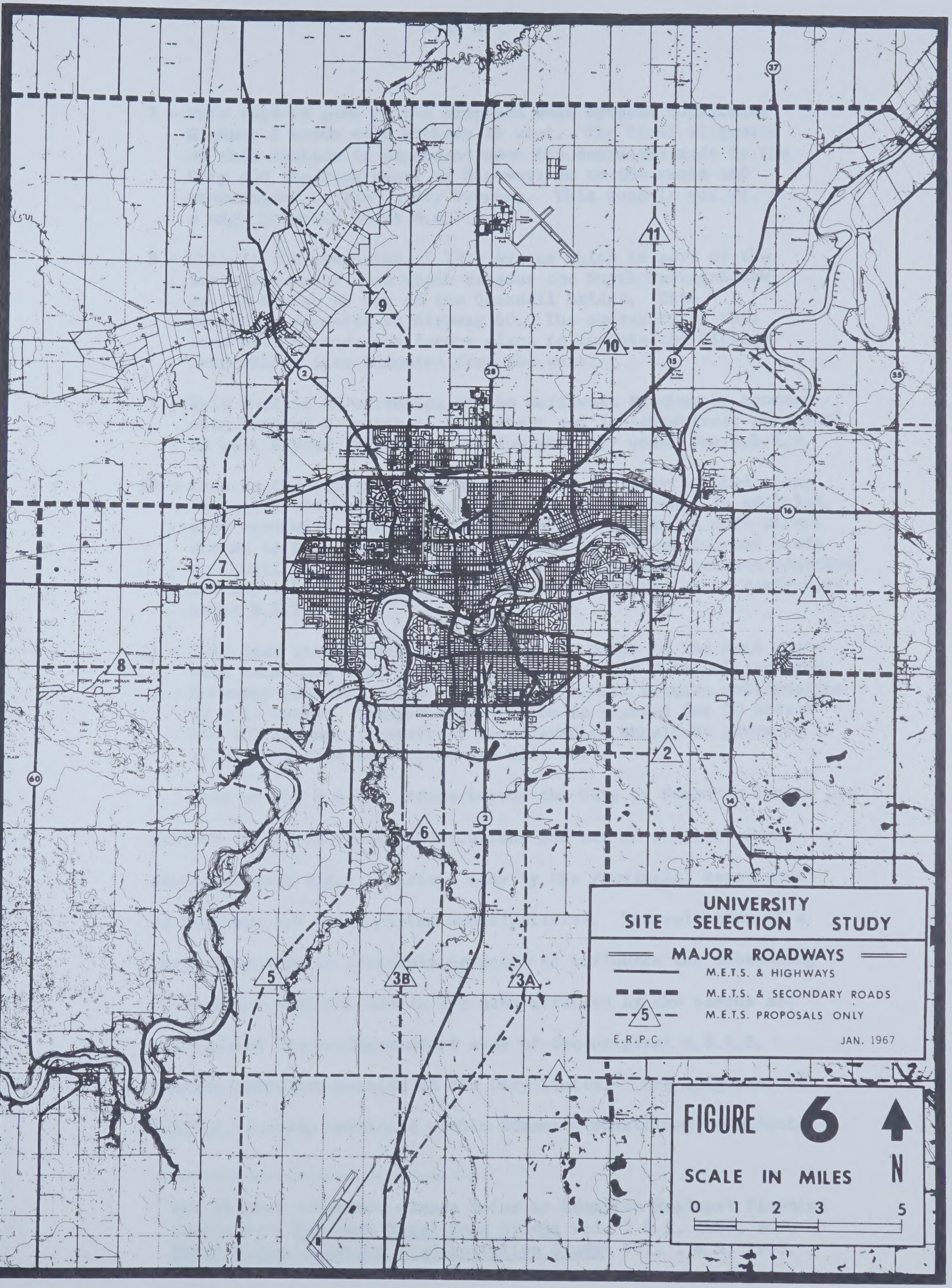

FIGURE 6

UNIVERSITY SITE SELECTION STUDY
MAJOR ROADWAYS
M.E.T.S. & HIGHWAYS
M.E.T.S. & SECONDARY ROADS
5 M.E.T.S. PROPOSALS ONLY
E.R.P.C.
JAN. 1967
SCALE IN MILES
0 1 2 3 5
N
1
2
3A
3B
4
5
6
7
8
9
10
11
2
14
15
16
28
37
55
60
EDMONTON

7 - This road is part of the proposed west by-pass connecting Highway 2 south with Highway 16 west. The final alignment of this section is dependent upon the decisions made by the City and the Department of Highways as to the route and connections to the Jasper Freeway. This road is not of a high priority under M.E.T.S.

8 - This is the extension of 79th Avenue which is part of the inner perimeter road which crosses the North Saskatchewan at 142 Street by way of the Quesnell Bridge. This extension connects to Highway 60. The necessity of this road will depend upon future plans to improve the highway connections into Edmonton from the west.

9 - This road is an extension of the Northwest Freeway to connect with Highway 2, north of St. Albert and is tentatively projected as well beyond 1980 and is of low priority under the M.E.T.S.

10 - This is the outer ring or by-pass road facility located along the north side of the Metropolitan Edmonton Area. In addition, this road will give the M.D. of Sturgeon residents more direct access to St. Albert and the hospital facilities located there and will also provide much improved connections between Edmonton and St. Albert. This road should be considered at an early date under M.E.T.S.

11 - This road is an extension of 34 Street north to the main east-west secondary road in the north part of the Metropolitan Area. Recently prepared plans for Highway 15 will require modification of this route. A major intersection is planned for 50 Street and 137 Avenue. Therefore, consideration should be given to relocating this connection one mile west.

Most of the M.E.T.S. roads beyond the City of Edmonton limits are subject to considerable modifications and are to a great extent dependent upon major decisions made by the Provincial Department of Highways and Metropolitan municipalities. The selection of a university site is certainly expected to influence the scheduling of roadways construction in the area affected by the campus and may require the realignment of some of the original M.E.T.S. roadway corridors outside of the City Limits.[1] The alignment of M.E.T.S. freeway corridors within Edmonton should not be affected

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[1] For further reference please refer to Edmonton Regional Planning Commission; Regional Rural Road Study; Vol. 1 & 2, 1966; and, Metropolitan Edmonton Transportation Study; Vol. 1 & 2, 1963.

by the placing of a university in the Metropolitan Complex. However, the priority schedule may be revised to meet changing demands. Since the M.E.T.S. a number of the projects recommended in the Study have been completed, are under construction or are approved for construction. These include the Glenora Interchange, the Mayfair Interchange, the Quesnell Bridge and approaches and the 105 Street Bridge. Other M.E.T.S. roads are in the functional planning stage. Upon completion of the planned routes most of the areas in the Metropolitan Complex will be easily accessible by freeway and by the primary and secondary road system and should provide a system for fast, safe and economical movement of large volumes of traffic. It is planned for some of the first stages of the M.E.T.S. freeways to utilize existing major arterials along the M.E.T.S. freeways alignments. Eventually these would be converted to the ultimate freeways as proposed in M.E.T.S. with little alteration of the corridors or alignments. The rate of implementation of the M.E.T.S. system will depend on a number of factors, particularly on the amount of money alloted to the system and the possible integration of the system with a form of rapid transit.

3. Rapid Transit and the Commuter Train

A comprehensive transportation system for the Metropolitan Edmonton Complex and the new university must include a sophisticated rapid transit system. While it is assumed that a public express bus system will serve the university initially, balanced transportation can only be realized with more efficient and faster service. Planning for a rapid transit facility to serve the new university

must be done in the initial stages of the university's development so as to avoid conflict and unnecessary duplication of roadways and rapid transit facilities and to maintain efficient pedestrian circulation in the future.

(a) Rapid Transit

In 1963 Canadian Bechtel Limited prepared a plan for a rapid transit system for the City of Edmonton. This system was designed to serve central Edmonton from the suburban parts of the City and was planned as a facility to relieve traffic congestion and provide more balanced transportation. Transit routes were determined by such factors as population forecasts, railway right-of-way locations and travel patterns. (See Figure 7 for illustration)

Planning for a university oriented rapid transit line will have to consider the provision of a fast and efficient transit service from central Edmonton, with its concentration of bus routes and people, to the new campus. Topographic limitations are very important in the Edmonton situation and could be a limiting factor to providing the facility. In general, the major physical obstacle to rapid transit routing in the Metropolitan Area is the North Saskatchewan River and its valley and ravines. Crossing the River would necessitate providing high level bridge structures, and this will be very expensive. It may be feasible to adapt existing railroad bridges to carry the cross river routes and the extensive use of existing railway right-of-way facilities should be explored further. The Edmonton area

is fortunate to be endowed with advantageously situated railway lines and their utilization for a rapid transit is considered feasible. The only area presently lacking rail facilities is the southwest. (See Figure 7 - Rail Transit)

(b) Commuter Train or Modified Rapid Transit

Most of the towns and cities in the North Region and particularly in the Metropolitan Edmonton Complex have a good railway connection to Edmonton. While the automobile will likely remain the dominant form of transportation outside the Study Area, early consideration should be given to providing frequent peak hour inter- and intra-urban train service on existing railway trackage and rights-of-way. A commuter train could provide high speed, long distance, mass transit service between various points in Edmonton and such centres as St. Albert, Fort Saskatchewan and Leduc-International Airport. As demand for this service increases it could be converted into a mass rapid transit facility. If the new university campus were located near one of these rail lines, it would be quite feasible to provide a connection to the campus. Students from the nearby towns would benefit by being able to live at home and commute to the new campus while students from various parts of Edmonton might find this form of transit more efficient than travelling by automobile. The City of Edmonton has recently decided to undertake a detailed study of a Rapid Transit System to serve central Edmonton. The first phase of the system is to use existing railway rights-of-way and proposes to connect northwest and northeast Edmonton and the University of Alberta areas with

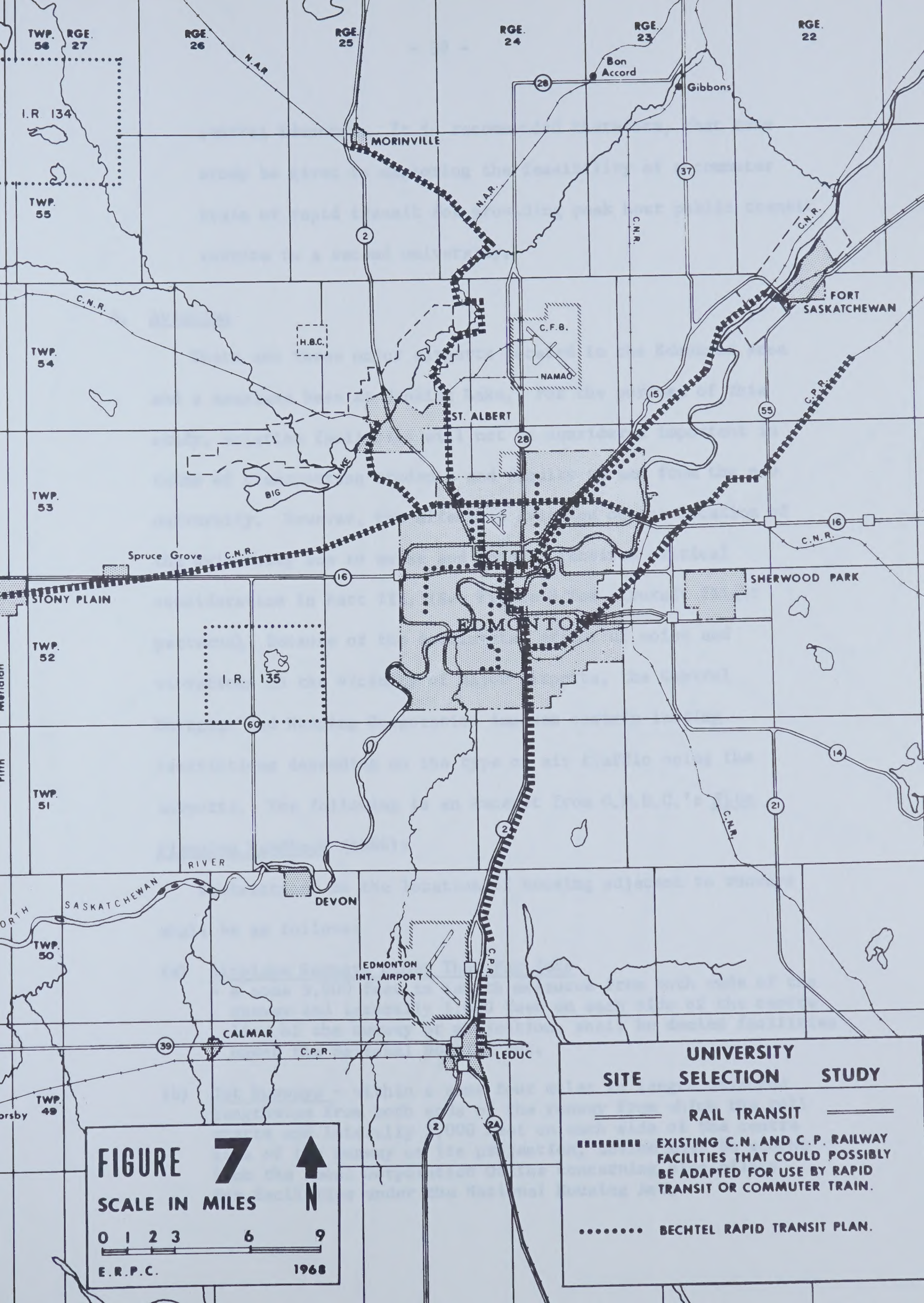

FIGURE 7

UNIVERSITY SITE SELECTION STUDY

RAIL TRANSIT

▮▮▮▮▮▮▮▮ EXISTING C.N. AND C.P. RAILWAY FACILITIES THAT COULD POSSIBLY BE ADAPTED FOR USE BY RAPID TRANSIT OR COMMUTER TRAIN.

•••••••• BECHTEL RAPID TRANSIT PLAN.

TWP. 56
RGE. 27
RGE. 26
RGE. 25
RGE. 24
RGE. 23
RGE. 22
N.A.R.
Bon Accord
Gibbons
28
I.R. 134
MORINVILLE
37
TWP. 55
2
N.A.R.
C.N.R.
C.N.R.
C.N.R.
FORT SASKATCHEWAN
TWP. 54
H.B.C.
C.F.B.
NAMAO
15
55
C.P.R.
ST. ALBERT
28
BIG LAKE
TWP. 53
16
C.N.R.
Spruce Grove
C.N.R.
CITY
16
SHERWOOD PARK
STONY PLAIN
EDMONTON
TWP. 52
I.R. 135
60
14
21
TWP. 51
2
C.N.R.
RIVER
NORTH SASKATCHEWAN
DEVON
TWP. 50
C.P.R.
EDMONTON INT. AIRPORT
CALMAR
39
C.P.R.
LEDUC
TWP. 49
2
2A
SCALE IN MILES
0 1 2 3 6 9
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E.R.P.C.
1968

central Edmonton. It is recommended therefore, that more study be given to exploring the feasibility of a commuter train or rapid transit for providing peak hour public transit service to a second university.

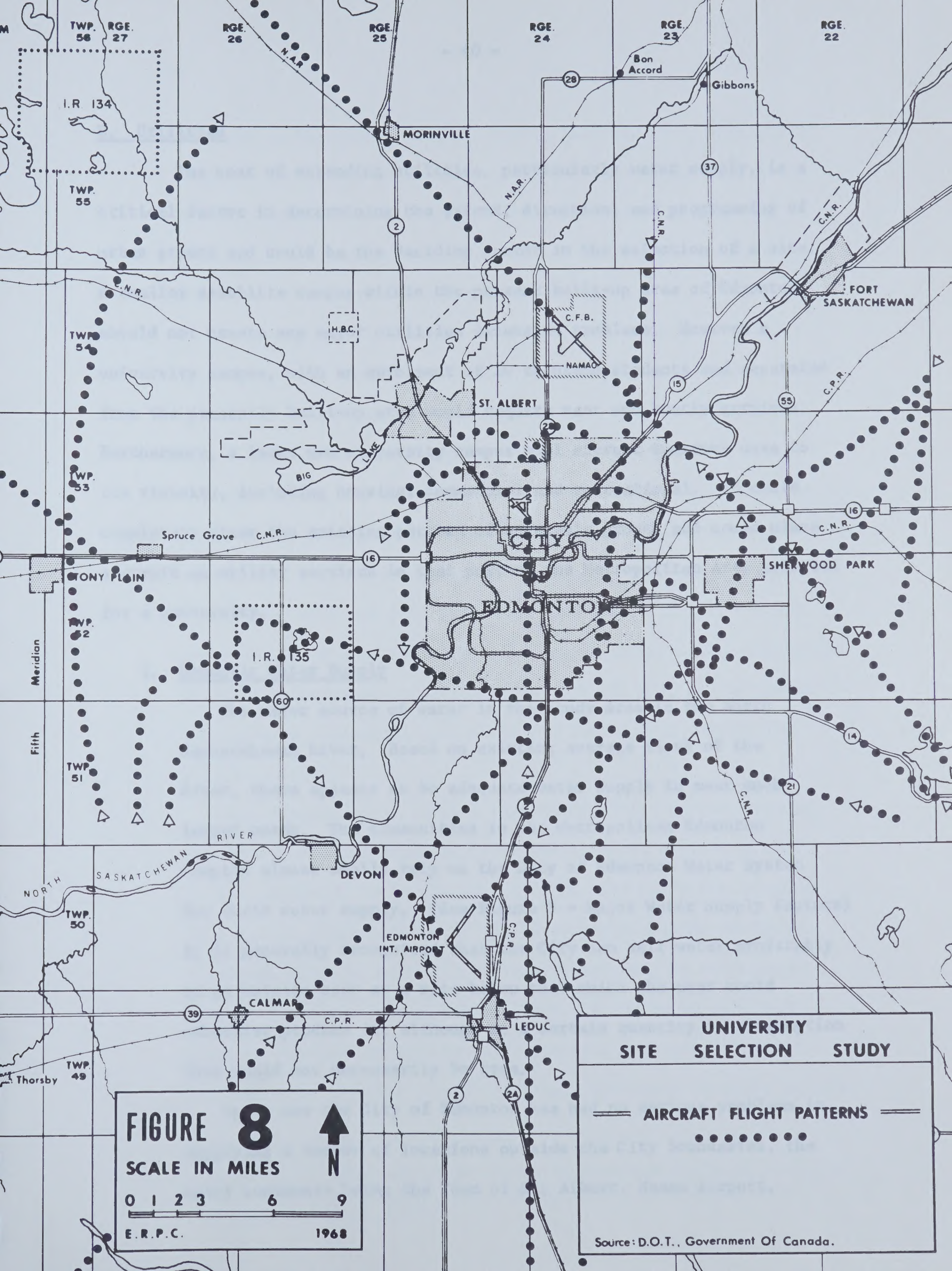
4. Aviation

There are three major airports located in the Edmonton area and a seaplane base at Cooking Lake. For the purpose of this study, aviation facilities will not be considered important in terms of transporting students and faculty to and from the new university. However, the effect of aviation on the location of the university due to noise and hazards received critical consideration in Part III. (See Figure 8 for aircraft flight patterns). Because of the detrimental effect of noise and vibrations in the vicinity of major airports, the Central Mortgage and Housing Corporation imposes certain lending restrictions depending on the type of air traffic using the airports. The following is an excerpt from C.M.H.C.'s Site Planning Handbook (1966):

Restrictions on the location of housing adjacent to runways shall be as follows:

(a) Airplane Runways Other Than For Jets
- A zone 5,000 feet in length measured from both ends of the runway and laterally 1,000 feet on each side of the centre line of the runway or projection, shall be denied facilities under the National Housing Act.

(b) Jet Runways - within a zone four miles in length measured lengthwise from both ends of the runway from which the roll starts and laterally 2,000 feet on each side of the centre line of the runway or its projection, advice must be sought from the local Corporation Office concerning elegibility for facilities under the National Housing Act.


TWP. 56
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RGE. 25
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RGE. 23
RGE. 22
N.A.R.
Bon Accord
Gibbons
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I.R. 134
MORINVILLE
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TWP. 55
N.A.R.
C.N.R.
C.N.R.
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C.N.R.
FORT SASKATCHEWAN
H.B.C.
C.F.B.
NAMAO
TWP. 54
15
55
C.P.R.
ST. ALBERT
28
BIG
LAKE
TWP. 53
16
Spruce Grove
C.N.R.
C.N.R.
CITY
16
SHERWOOD PARK
STONY PLAIN
EDMONTON
TWP. 52
I.R. 135
Meridian
Fifth
60
14
TWP. 51
2
21
C.N.R.
RIVER
SASKATCHEWAN
NORTH
DEVON
TWP. 50
EDMONTON INT. AIRPORT
C.P.R.
CALMAR
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FIGURE 8

SCALE IN MILES

0 1 2 3 6 9

E.R.P.C. 1968

UNIVERSITY SITE SELECTION STUDY

AIRCRAFT FLIGHT PATTERNS

● ● ● ● ● ● ● ● ●

Source: D.O.T., Government Of Canada.

E. Utilities

The cost of extending utilities, particularly water supply, is a critical factor in determining the extent, direction, and programming of urban growth and could be the deciding factor in the selection of a site. A smaller satellite campus within the present built-up area of Edmonton should not create any major utilities extension problems. However a university campus, with an enrolment of 20 thousand students and separated from the presently built-up area would require vast and costly services. Furthermore, a large new university campus will attract numerous uses to its vicinity, including housing, commercial and recreational. It could completely alter the existing pattern of an area's growth and could place a strain on utility services in that part of the Metropolitan Area selected for a university.

1. Domestic Water Supply

The major source of water in the Study Area is the North Saskatchewan River. Based on existing average flows of the River, there appears to be adequate water supply to meet much larger needs. The communities in the Metropolitan Edmonton Complex almost wholly rely on the City of Edmonton Water System for their water supply. (See Figure 9 - Major Water Supply Factors) It is generally recognized that the City can sell water profitably to an outside user at a rate below that which the user could otherwise produce it, although at a certain quantity of consumption this would not necessarily be true.

Up to now the City of Edmonton has had no serious problems in supplying a number of locations outside the City boundaries, the major consumers being the Town of St. Albert, Namao Airport,

the Alberta Hospital at Oliver, Leduc, Sherwood Park, industrial areas in the County of Strathcona and the International Airport. The City does not own or operate the pipelines supplying the suburban subscribers. Water is supplied to Edmonton's boundary and from there to the consumer-owned lines.[1]

A water supply to serve a university will almost certainly be derived from the City of Edmonton Water System; however, there are other possibilities. The Superintendent of the City Water Department has indicated that based on studies of the present university, the new university with an enrolment of 20,000 students would create a .... "peak hourly water demand of approximately 16,000 U.S. gallons per minute (23 M.G.D. - U.S.) and a daily peak demand of 8,400 U.S. gallons per minute (12 M.G.D. - U.S.). These are large quantities of water, representing a high percentage of our plant capacity. A daily peak of 8,400 U.S. gpm is enough to supply an industrial city of 80,000 people or a residential city of 100,000."

Such demands would place a very heavy strain on the existing Edmonton System and from the water supply point of view it would be most desirable if the university were located in the vicinity of a new treatment plant. It may be possible for the existing treatment plant to serve the University but only in the interim period of the university's development. A new water treatment plant is proposed for construction upstream from the City near Big Island by 1980 and in view of this a southwest location appears

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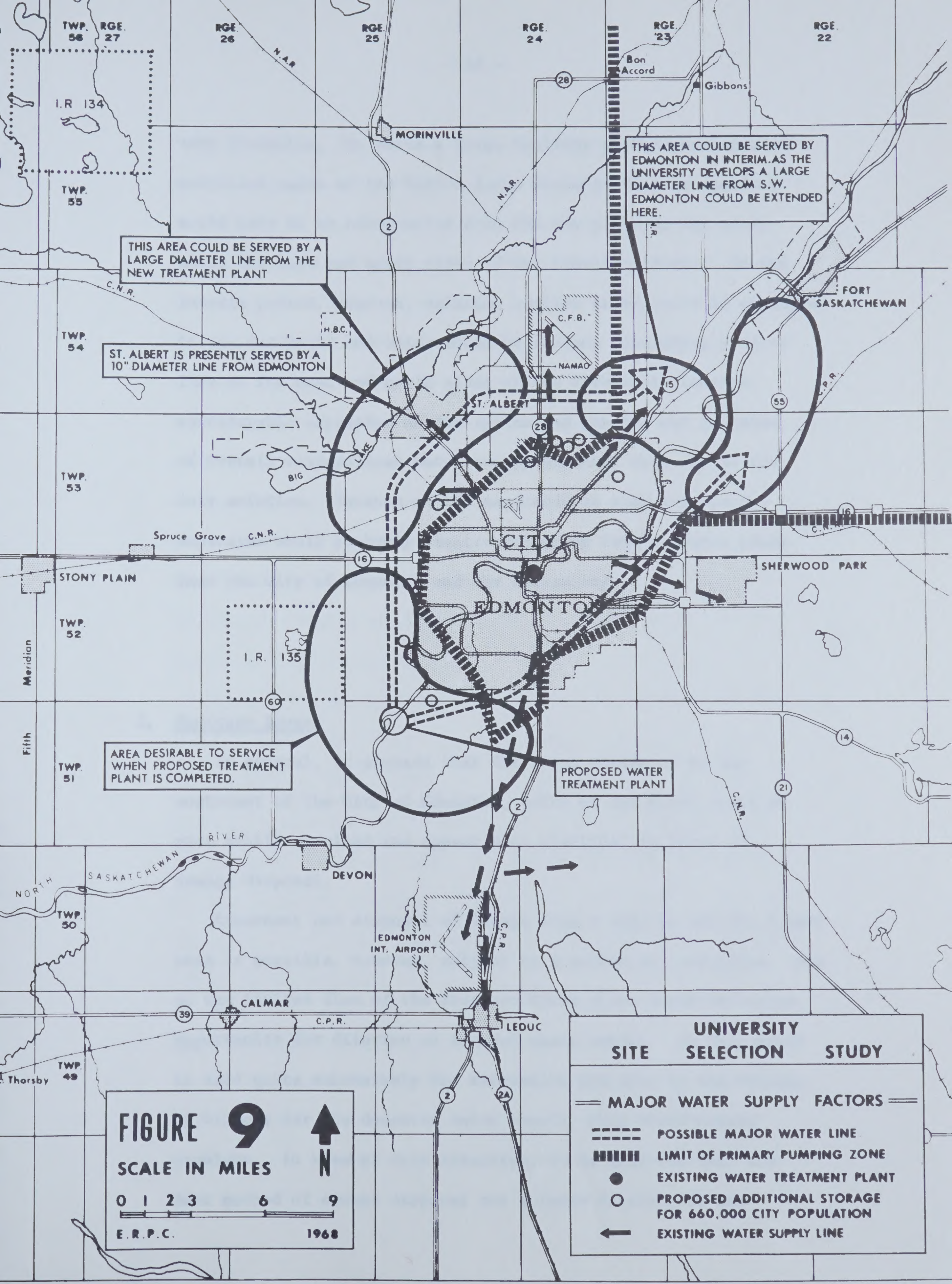
[1] For further reference please refer to: Edmonton Regional Planning Commission, Preliminary Study of the Edmonton District Water Supply; November, 1960.


TWP. 56
RGE. 27
RGE. 26
RGE. 25
RGE. 24
RGE. 23
RGE. 22
N.A.R.
Bon Accord
Gibbons
28
I.R 134
MORINVILLE
TWP. 55
THIS AREA COULD BE SERVED BY EDMONTON IN INTERIM. AS THE UNIVERSITY DEVELOPS A LARGE DIAMETER LINE FROM S.W. EDMONTON COULD BE EXTENDED HERE.
2
THIS AREA COULD BE SERVED BY A LARGE DIAMETER LINE FROM THE NEW TREATMENT PLANT
C.N.R.
FORT SASKATCHEWAN
H.B.C.
C.F.B.
TWP. 54
ST. ALBERT IS PRESENTLY SERVED BY A 10" DIAMETER LINE FROM EDMONTON
NAMAO
15
ST. ALBERT
55
C.P.R.
28
BIG LAKE
TWP. 53
16
Spruce Grove
C.N.R.
CITY
STONY PLAIN
16
SHERWOOD PARK
EDMONTON
TWP. 52
Fifth Meridian
I.R. 135
60
AREA DESIRABLE TO SERVICE WHEN PROPOSED TREATMENT PLANT IS COMPLETED.
TWP. 51
PROPOSED WATER TREATMENT PLANT
14
2
21
C.N.R.
RIVER
NORTH SASKATCHEWAN
DEVON
TWP. 50
EDMONTON INT. AIRPORT
C.P.R.
CALMAR
39
C.P.R.
LEDUC
TWP. 49
Thorsby
2
2A
FIGURE 9
SCALE IN MILES
0 1 2 3 6 9
N
E.R.P.C.
1968
UNIVERSITY SITE SELECTION STUDY
MAJOR WATER SUPPLY FACTORS
POSSIBLE MAJOR WATER LINE
LIMIT OF PRIMARY PUMPING ZONE
EXISTING WATER TREATMENT PLANT
PROPOSED ADDITIONAL STORAGE FOR 660,000 CITY POPULATION
EXISTING WATER SUPPLY LINE

very desirable. To serve a large facility in the northwest or northeast parts of the City a large diameter line or aqueduct would have to be constructed from the new plant to run north along the west and north sides of the Edmonton limits. In the interim period, however, existing smaller mains could be extended to the northeast and water could be stored. Extending a major line to the west and north sides of the City would involve considerable expansion of the system and expense and in terms of overall metropolitan water supply planning this may be the only solution. Because of the magnitude of such a project, expansion would probably require financing from a source other than the City of Edmonton and the university.

2. Sanitary Sewers

In general, it appears that the sites within or to the northeast of the City of Edmonton, north of the River, could be most easily serviced and appear most practical in terms of sewage disposal.

Treatment and disposal of sewage from a site in the St. Albert area is possible, however, subject to a number of conditions. Due to the limited flow of the Sturgeon River there would be little opportunity for dilution of treated waste waters. As this River is used quite extensively for recreation and also by the Village of Gibbons for its domestic water supply, this could create problems. In view of this situation, it is believed that the best method of sewage disposal for a large facility in the very desirable. To serve a large facility in the northeast or northeast parts of the City a large diameter line of aqueduct would have to be constructed from the new plant to the north along the west and north sides of the Edmonton limits. In the interim period, however, existing smaller mains could be extended to the northeast and water could be stored. Extending a major line to the west and north sides of the City would involve considerable expansion of the system and expense and in terms of overall metropolitan water supply planning this may be the only solution. Because of the magnitude of such a project, expansion would probably require financing from a source other than the City of Edmonton and the University.

2. Sanitary Sewers

In general, it appears that the sites within or to the southeast of the City of Edmonton, north of the River, could be most easily serviced and appear most practical in terms of sewage disposal.

Treatment and disposal of sewage from a site in the St. Albert area is possible, however, subject to a number of conditions. Due to the limited flow of the Sturgeon River there would be little opportunity for dilution of treated waste waters. As this River is used quite extensively for recreation and also by the village of Gibbons for its domestic water supply, this could create problems. In view of this situation, it is believed that the best method of sewage disposal for a large facility in the vicinity of St. Albert would be to tie in to the City of Edmonton sewerage system or for separate treatment facilities which would release sewage by outfall sewer line to the North Saskatchewan River. This would involve the construction of expensive tunnel extensions with lift stations. Any release to the North Saskatchewan River would also entail secondary treatment of wastes. Another possibility might be to develop a series of ponds to provide adequate treatment of sewage. These ponds could hold the wastes until such time when the flow of the Sturgeon River is great enough to allow the waste to be released. This method may be practical in the initial stages of university development but eventually it would be necessary to connect to the Edmonton System or provide a direct outfall sewer line to the North Saskatchewan River.

Sites upstream from Edmonton would be most feasible if they could be connected to the City of Edmonton sewerage system. A university near Devon might not be feasibly connected to the Edmonton system but could possibly be tied to a sophisticated and expanded system at Devon. The Devon facilities currently provide secondary treatment plus chlorination; however, further pollution of the North Saskatchewan River upstream from Edmonton should be discouraged.

3. Oil, Gas, Telephone and Electric Lines

The Metropolitan Edmonton Area, particularly the eastern part is very heavily interwoven with oil, gas and electric transmission line rights-of-way. These rights-of-way, ranging from 10 to 80 feet for oil and gas lines and up to 200 feet for

electric power lines, will have a significant effect on the detailed siting of the new campus. No difficulty is foreseen in supplying natural gas and electricity to a new university although some sites may require longer and costlier extensions than others. It is anticipated that no charge would be made by Northwestern Utilities Ltd. to supply the university if sufficient use of natural gas were guaranteed when construction is started. However, this matter should be explored further in an engineering study.

The proposed university sites lie within the area served by Calgary Power Ltd. and Edmonton Power within the City of Edmonton limits. The affected companies should be contacted concerning adequate power service when tentative sites are selected. Similar action would be required with respect to telephone service.

Summary and Recommendation

It is recommended that a detailed engineering study be made as to the availability of public services to serve the proposed university and the cost of providing such services after such time as tentative sites are selected. It is important that the utilities companies be provided proper advance notice so that adequate utilities may be provided in advance and terminal points may be established.

F. Sites Selected for Consideration

A total of ten sites in five general locations were selected for further analysis and consideration and are outlined in general in Figure 10. The sites were selected after a careful analysis in the Study Area using the findings in Part II of this Study. While the examination considered a number of additional sites, they did not fulfill the requirements as well as those that were selected for more detailed evaluation.

Utilizing the pertinent information gathered in Part II of this Study and relating the sites to the basic criteria it will be possible to outline advantages and disadvantages of each site. In some instances the sites are rated as good, fair and poor.

The sites are rated in Part III of the Study according to the following major criteria:

(a) Nearness to the Centre of Population Distribution and Growth.

(b) Joint Use of Related and Other Facilities.

(c) Accessibility

(d) Compatibility with Surroundings, Environment and the Regional Plan.

(e) Effect on Surrounding Development and Economic Impact.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions.

(g) Shape, Topography and Design Potential.

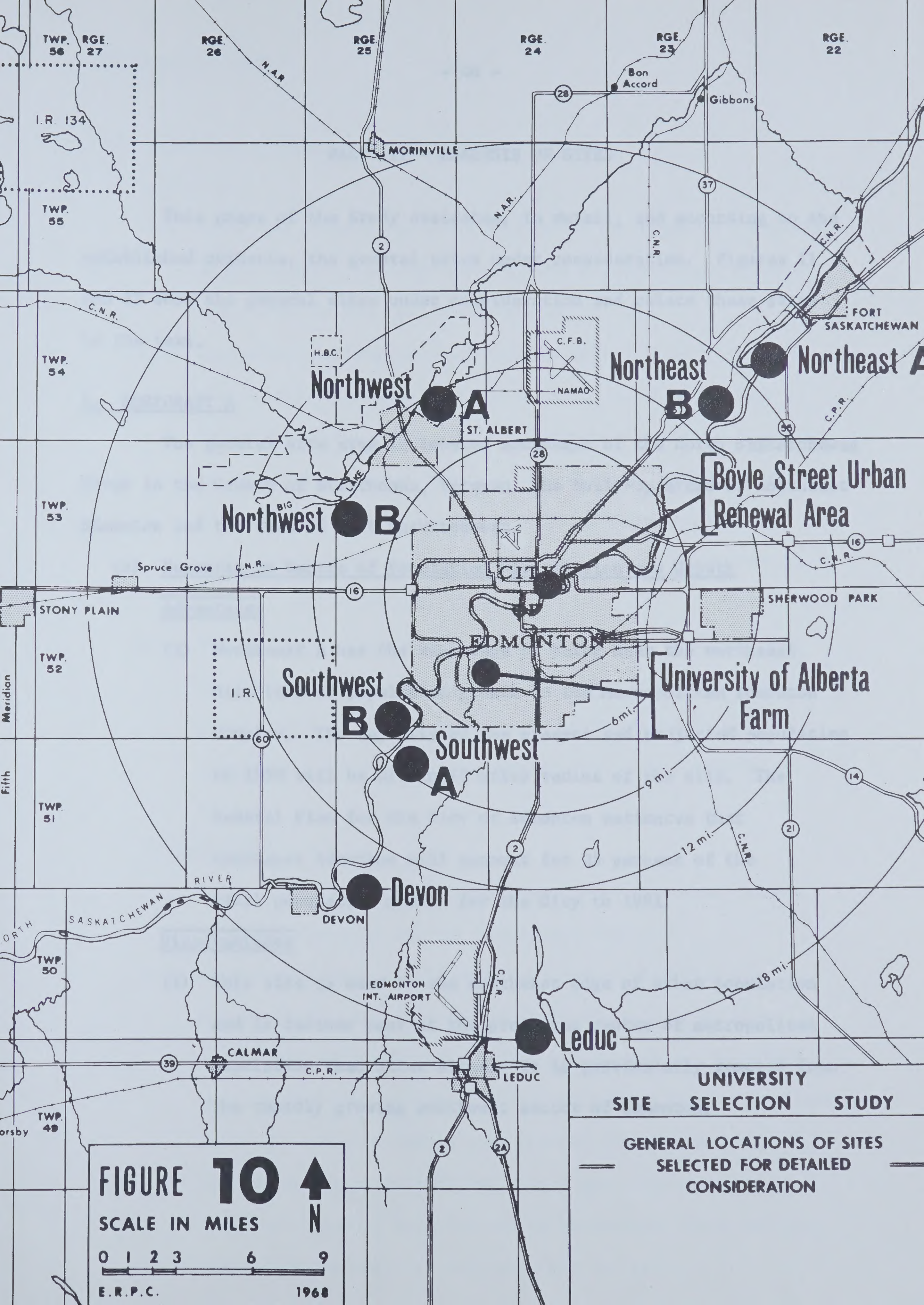

TWP. 56
RGE. 27
RGE. 26
RGE. 25
RGE. 24
RGE. 23
RGE. 22
N.A.R.
Bon Accord
Gibbons
28
I.R. 134
MORINVILLE
37
TWP. 55
N.A.R.
C.N.R.
2
C.N.R.
C.N.R.
FORT SASKATCHEWAN
TWP. 54
H.B.C.
C.F.B.
NAMAO
Northwest A
Northeast B
Northeast A
ST. ALBERT
C.P.R.
56
28
Boyle Street Urban Renewal Area
TWP. 53
BIG LAKE
Northwest B
16
Spruce Grove
C.N.R.
C.N.R.
STONY PLAIN
16
CITY OF EDMONTON
SHERWOOD PARK
TWP. 52
I.R.
University of Alberta Farm
Southwest B
60
6 mi.
Southwest A
Fifth Meridian
9 mi.
14
TWP. 51
2
12 mi.
C.N.R.
21
RIVER
Devon
NORTH SASKATCHEWAN
DEVON
TWP. 50
EDMONTON INT. AIRPORT
C.P.R.
18 mi.
Leduc
CALMAR
39
C.P.R.
LEDUC
TWP. 49
orsby
2
2A
N

FIGURE 10

SCALE IN MILES

0 1 2 3 6 9

E.R.P.C. 1968

UNIVERSITY SITE SELECTION STUDY

GENERAL LOCATIONS OF SITES SELECTED FOR DETAILED CONSIDERATION

PART III - ANALYSIS OF SITES

This phase of the Study evaluates, in detail, and according to the established criteria, the general sites under consideration. Figures 11 and 12 show the general sites under consideration and relate these sites to the text.

1. NORTHEAST A

The general site area is located southeast of the North Saskatchewan River in the County of Strathcona, between the built-up areas of northeast Edmonton and the Town of Fort Saskatchewan.

(a) Nearness to Centre of Population Distribution and Growth

Advantages

(i) Northeast A has the advantage of being near the northeast direction of population growth in the Metropolitan Edmonton Complex. The majority of the present and projected population to 1980 will be within 15 miles radius of the site. The General Plan for the City of Edmonton estimates that northeast Edmonton will account for 35 percent of the total population growth for the City to 1981.

Disadvantages

(1) This site is near to the northeast edge of urban population and is further east of the projected center of metropolitan population than other sites. It is particularly removed from the rapidly growing southwest sector of Edmonton.

(b) Joint Use of Related and Other Facilities

Advantages

(i) Joint and optimum use could be made of the research facilities of the Alberta Research Council, the university and private industries in the east and northeast.

(ii) Convenient employment opportunities exist within a 15 to 30 minute driving time. This factor would be of particular advantage if the curriculum was business - technical oriented or required study and practical experience. A program of long-range industrial planning could attract firms to the area with a potential for faculty and student employment in research and scientific work.

(iii) Within 10 to 30 minutes of Fort Saskatchewan, Sherwood Park and residential developments in northeast Edmonton. Fort Saskatchewan is an industrial town and Sherwood Park is essentially a residential community with good standards of housing.

Disadvantages

(i) Apart from the industrial employment potential there exists no major alternate student employment nearby.

(ii) Residential areas in the northeast part of Edmonton are separated from the site by the River and industrial areas and at present are inadequate and may necessitate providing more student housing than the desired proportion of 25 percent. While this site is within easy driving distance to a number of residential neighbourhoods with a good type and price range, the housing nevertheless is inadequate. More multiple family housing would be required near the site.

(iii) Joint use of facilities with the University of Alberta and the Northern Alberta Institute of Technology would be difficult since the site is not within easy access of these institutions and would require travel through congested areas. The proposed site is approximately 18 to 20 miles from the University of Alberta via the existing road system.

(iv) The site is relatively remote from the cultural and recreational facilities of central Edmonton. The nearby town of Fort Saskatchewan does not, at present, offer sufficient cultural or recreational facilities.

(c) Accessibility

Advantages

(i) Northeast A is served by Highway 55 and has connections to Edmonton via this highway and Highways 15, 16, 16A and 14. Plans are underway to realign and upgrade Highway 15 between Edmonton and Fort Saskatchewan. In the future, the site may be served directly by the north by-pass as proposed in the Metropolitan Edmonton Transportation Study.

(ii) This site is accessible to residential neighbourhoods in northeast Edmonton, Sherwood Park and especially Fort Saskatchewan.

(iii) This site is located near CPR and CNR railway lines. These lines could be adapted for use by a commuter train or a type of rail rapid transit.

Disadvantages

(i) The site will not be served directly by freeways scheduled to be built before 1981, but the Northeast Freeway scheduled to be completed from downtown Edmonton to 125th Avenue before 1981 will benefit the site. According to M.E.T.S. this area received low priority in freeway construction but it should be noted that priorities may be adjusted to meet changing demands.

(ii) At present access is not convenient for the bulk of the population on the north side of the River and in southwest Edmonton. It will be necessary to construct at least one more bridge downstream from the Clover Bar Bridge and a new priority date established for the north by-pass which is designed to directly connect St. Albert and northeast Edmonton. The east by-pass would have to be upgraded to freeway standards.

(iii) There could be serious conflict between work traffic moving to the northeastern industrial areas and student traffic. The northeast area is already congested during peak hours, especially on 118th Avenue.

(iv) The site does not lend itself to commuter train or rapid transit service as well as sites Northeast B, Northwest A and B and the Boyle Street Urban Renewal Area.

(d) Compatibility with Surroundings, Environment and the Regional Plan

Advantages

(i) The area is presently zoned Low Density Agriculture.

(ii) The environs are primarily agricultural with some industrial uses and gravel excavating nearby. The surroundings are peaceful and country-like and offer a view of the North Saskatchewan River Valley. In general, these uses are

compatible and should contribute to the development of a new university and its ancillary uses.

(iii) North and northeast Edmonton is presently being developed largely as single family residential. Immediately to the south and east of this site the land is undeveloped; however, further to the southwest there are a number of large industrial establishments on the east side of the River.

(iv) No major problem with noise from airfields.

Disadvantages

(i) The northeast, in general, contains a number of gravel operations and they may have an adverse effect, particularly if operations were to be expanded.

(ii) The industrial land use to the southwest of site Northeast A will detract from a university environment. The industries could cause noise and pollution problems, particularly if additional heavy industries located in the vicinity of the proposed site. The rendering plants and stockyards to the southwest cause odour problems. A combination of these influences could make it difficult to attract private residential expansion to serve the university. However, through proper screening, pollution control and industry location control the detracting elements could be eliminated or considerably reduced in magnitude to assure compatibility with the campus.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) The proposed university will be a stimulant to faster residential growth in northeast Edmonton, Sherwood Park, St. Albert and Fort Saskatchewan and if properly planned should have a beneficial effect on surrounding land uses. It is anticipated that various campus oriented retail and service facilities would tend to develop adjacent to this site were it developed for university use. The remoteness of the site from the built-up areas of Edmonton would provide an opportunity for the development of an attractive university oriented housing complex.

(ii) The site has the advantage that it will be causing no displacement of intensive land uses. However, some gravel operations may have to be controlled.

(iii) The purchasing power will increase in the north and northeast parts of the Metropolitan Complex due to the population shifts expected to follow. Other areas of Metropolitan Edmonton should benefit, but to a lesser degree.

Disadvantages

(i) Northeast A site is more isolated from Edmonton than other sites under consideration and consequently would not assist in the overall development of a compact metropolitan area as well as some of the other sites would.

(ii) Due to the natural barriers adjacent to the site and nearby industrial influences, large scale residential development might be limited to the north of the River, northeast of the site and to Sherwood Park and Fort Saskatchewan.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a campus of 400 acres in size. Sufficient land area is also available for university oriented uses or a university community. Because of the broad limits of the site area, numerous development possibilities exist.

(ii) The site is not adversely divided by highways or railroad lines. There are a number of topographic features which would be an asset, providing natural separation between different land uses.

(iii) Most of the site is buildable and is relatively flat and appears to be relatively free of drainage problems or unstable soils. Most of the terrain is usable for all kinds of intensive activities.

(iv) All necessary utilities are available nearby or could easily be provided to the site. The site is adjacent to a proposed water supply line from Edmonton to Fort Saskatchewan and Redwater and is within limits of the primary pumping zone for water service from the City of Edmonton. A new sewer treatment plant is under construction to the southwest of the site. Total pumping of sewage would be necessary. Extension of electric power and gas lines should not pose any unusual problems.

Disadvantages

(i) Rock, gravel deposits and underground water near the River could cause construction problems.

(ii) At present, the site is not served directly by gas, sewer or water. The site is not adjacent to an N.U.L. major gas transmission line and would require considerably longer extensions than any other site under study. If the City of Edmonton were to supply the water, the university or the County would be responsible for providing the water line outside of the Edmonton boundaries. Due to pollution downstream from Edmonton it is unlikely that the University could supply its own potable water without considerable treatment or without forcing the City to provide advanced sewage treatment facilities.

(g) Shape, Topography and Design Potential

Advantages

(i) A feature of this site is the fine view of the North Saskatchewan River Valley and west bank. The rolling terrain of the northern portion of the site should provide for an interesting architectural treatment, but the south portion, particularly that adjacent to the River, is quite flat with a gentle slope towards the River. As the site is not influenced by any existing architecture it could develop its own distinctive design for an overall compatible development.

Disadvantages

(i) Basically, the site is level and has an elevation lower than the majority of the countryside and Edmonton. The view to the southwest is limited by higher land. Only the eastern portion of the site enjoys a vantage point.

(ii) Generally open land with few tree groupings.

2. NORTHEAST B

The general site area is located on the north bench of the North Saskatchewan River in the M.D. of Sturgeon, midway to the residential areas of northeast Edmonton and the Town of Fort Saskatchewan.

(a) Nearness to Centre of Population Distribution and Growth

Advantages

(i) This site has the advantage of being in the path of the northeast direction of population growth in the Metropolitan Area. The majority of the present and future population growth of the Metropolitan Edmonton Complex is within 14 miles radius of the site. The General Plan for the City of Edmonton estimates that northeast Edmonton alone will accommodate 35 percent of the new population growth for Edmonton to 1981.

Disadvantages

(i) The site is on the northeast edge of the urban population and is further east of the projected centre of metropolitan population than other prospective sites. It is removed from the rapidly growing southwest quadrant of the City of Edmonton.

(b) Joint Use of Related and Other Facilities

Advantages

(i) If a cross-river bridge were to be provided at this location, better joint use could be made of the research facilities of Alberta Research Council, the new university and those of private industries.

(ii) Convenient student employment opportunities exist at the nearby industrial plants. This factor would be of particular advantage if the curriculum was business - technical oriented or required study and practical experience. A program of long-range industrial planning could attract firms to the area with a potential for faculty and student employment in research and scientific work.

(iii) It is within 10 to 20 minutes of the residential developments in northeast Edmonton and Fort Saskatchewan.

Disadvantages

(i) Apart from the industrial employment potential there exists little other student employment nearby. However, with the proposed expansion of the Alberta Hospital and the extension of the urban area to the northeast and its associated commercial establishments, additional employment should be available in the future.

(ii) Major residential areas are separated from this site by the Alberta Hospital, a Government Tree Nursery and open land and therefore might necessitate providing more student housing than would be required for a university immediately adjacent to the urban area.

(iii) The site area is relatively remote from cultural and recreational facilities of central Edmonton, but is more conveniently located to these facilities than Northeast A.

(iv) Joint use of facilities with the University of Alberta and the Northern Alberta Institute of Technology would be difficult since the site is not within easy access of these institutions and would require travel through congested areas. The site is approximately 13 to 15 miles from the University of Alberta via the existing road system.

(c) Accessibility

Advantages

(i) Northeast B is adjacent to Highway 15 and has a direct connection to northeast Edmonton and Fort Saskatchewan. The planned realignment and upgrading of Highway 15 should reduce the travel time and improve access.

(ii) In the future the site may be directly served by the outer ring or by-pass facility located along the north side of the Metropolitan Edmonton Area as outlined in the M.E.T.S. This route will give residents of St. Albert and North Edmonton more convenient and direct access to the site. The present priority of the north by-pass will likely have to be updated.

(iii) The C.N.R. line running adjacent to the site could be adapted for use by a commuter train or a form of rapid transit to provide service from northeast Edmonton and Ft. Saskatchewan to downtown Edmonton. This site is adjacent to the natural alignment of a northeast transportation corridor which could include a combination of freeways, bus and rail rapid transit.

Disadvantages

(i) The site will not be served directly by freeways scheduled to be constructed by 1981. However, the Northeast Freeway scheduled by 1981 and extending to 125 Avenue in northeast Edmonton, should assist in providing access from the central area of Edmonton. In the M.E.T.S. plan the site area and its surroundings received low priority in freeway allotment.

(ii) Access is not convenient for the majority of the population living in the centre, west and south areas of Edmonton. However, the Capilano Ravine Bridge presently under construction, will greatly improve access to this site from southeast Edmonton.

(iii) Serious conflict may result between work traffic moving to the northeast industrial areas and student traffic. The northeast part of the Metropolitan Area is now congested during peak hours, especially 118 Avenue and the Fort Road. With the completion of the 125 Avenue by-pass, 137 Avenue and the proposed Northeast Freeway, the problem of access would be lessened.

(d) Compatibility with Surroundings, Environment and the Regional Plan

Advantages

(i) The site area is presently zoned Low Density Agriculture.

(ii) The surrounding area is used primarily for institutional, forestry and agricultural purposes and gravel workings. In general, these uses are compatible and would contribute to a good campus atmosphere. A university would further assist in creating a greenbelt effect between Edmonton and Fort Saskatchewan.

(iii) One of the great advantages of this site is its location adjacent to the scenic North Saskatchewan River and Valley and the fine panoramic view of the countryside.

(iv) The area to the southwest of this site is presently being developed largely as single family residential.

Disadvantages

(i) The northeast, in general, contains a number of industrial influences and they might have an adverse effect, particularly if operations were to be expanded. Of particular significance are the gravel operations and the City of Edmonton sewage treatment plant to the south across the River.

(ii) The creosoting plant, the stockyards, the rendering plant and feed lot operations to the southwest could have a detrimental effect. A combination of these influences could make it difficult to attract the type of private development needed to serve the university population.

(iii) Noise from trains running near or through the site area could have detrimental effects. Noise from Namao aircraft using the south flight paths may also constitute a nuisance.

(iv) A number of oil pipelines cut across or adjacent to the site in a north/south direction and may restrict building arrangement, depending on the exact location of the site.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) A university at Northeast B will be a stimulant to faster growth in northeast Edmonton and the Towns of St. Albert and Fort Saskatchewan and, in general, should have a beneficial effect on the surrounding land uses. While at

present growth is more rapid in southwest Edmonton, a university location in northeast Edmonton might have the effect of equalizing residential growth in the two quadrants.

(ii) The site has the advantage that it will not require the displacement of existing intensive land uses. Some gravel operations may have to be displaced, however.

(iii) An opportunity exists for the development of a university oriented community with university control over its development.

(iv) The purchasing power will increase in the north and north-east part of the Metropolitan Edmonton Complex due to the population shifts expected to follow. Other areas of Metropolitan Edmonton should benefit, but to a lesser degree.

Disadvantages

(i) This site is more isolated than other sites to be considered and consequently may not assist in the overall development of a compact Metropolitan Area as well as other sites.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a campus of 400 acres in size. Sufficient land is also available for university oriented uses or a university community. Because of the broad limits of the site area, numerous development possibilities exist.

(ii) The site is buildable and is comparatively flat with a decrease in elevation towards the River followed by a dramatic drop of the valley banks to the River level. The site appears to be relatively free from construction difficulties due to rock, water, surface drainage or unstable soils.

(iii) All the necessary utilities are available nearby or could be easily provided to the site. The site is within limits of the primary pumping zone for water service. A main sanitary sewer interceptor and treatment plant is available near the site. Extension of electric power and gas lines should not pose any unusual problems. In terms of utilities extensions, the site appears superior to site Northeast A.

Disadvantages

(i) At present the site is not served directly by gas, sewer or water lines; however, connections could be made to nearby facilities without major problems. A major N.U.L. transmission line is located about one mile west of the site. If the City of Edmonton supplied water, the university or the Municipal District would be responsible for providing the water line outside of the Edmonton boundaries. Due to pollution downstream from Edmonton, it is unlikely that the University could supply its own potable water without considerable treatment of the river water or without forcing the City to provide advanced sewage treatment facilities.

(g) Shape, Topography and Design Potential

Advantages

(i) A feature of this site is that it offers a commanding view of the North Saskatchewan River Valley. The level to rolling terrain and the natural state of much of this area should provide for an interesting and attractive development. This area could be rated as having some of the best views within the Metropolitan Edmonton Complex and is superior in this respect to site Northeast A.

Disadvantages

(i) The site is at a lower elevation than Edmonton.

(ii) Generally, the surroundings are open agricultural land with few tree concentrations.

3. NORTHWEST A

This general site area is located in the northwest part of the Metropolitan Complex adjacent to the Sturgeon River in the M.D. of Sturgeon, northeast of St. Albert.

(a) Relationship to the Centre of Population Distribution and Growth

Advantages

(i) All population and urban growth projected for the Metropolitan Edmonton Area before 1981 will take place within fifteen miles radius of site Northwest A. The site has the advantage of being almost equidistant to the northeast and southwest population growth quadrants of Edmonton.

Disadvantages

(i) While the site has the advantage of being almost equidistant to the northeast and southwest areas of future growth of Edmonton, the site itself is not in the path of Edmonton's growth.

(b) Joint Use of Related and Other Facilities

Advantages

(i) The new university would be able to take advantage of the proposed Sturgeon Valley recreational facilities.

(ii) The existing business establishments in St. Albert are conveniently located and could adequately serve the university in the initial stages.

(iii) This site is within easier access to the Northern Alberta Institute of Technology than sites Northeast A or B. The University of Alberta is conveniently located to this site via the Groat Road and Highway No. 2 and intermovement need not go through congested strip commercial or through downtown Edmonton. The distance of the site from the University of Alberta should prevent interference while at the same time allowing each to benefit from the other.

(iv) Students could take advantage of the employment potential in St. Albert and in the light industrial establishments in northwest Edmonton.

(v) A good variety of single family housing is available in the town of St. Albert and northwest Edmonton. However, additional housing of every type would be needed.

Disadvantages

(i) At present no multi-family developments exist which could serve a new university. However, it is anticipated that as the university develops this type of housing would be provided by private developers.

(ii) The site is removed from cultural and recreational facilities of central Edmonton. St. Albert does not, at present, offer sufficient cultural and recreational facilities.

(c) Accessibility

Advantages

(i) This site is served indirectly by the St. Albert Trail (Highway No. 2 North). This highway could adequately provide access between the site and north and northwest Edmonton in the initial stages of the university's development. However, as the campus develops, three additional traffic corridors will be required: a high speed, high capacity route from southwest Edmonton (i.e. west by-pass); an east/west route from northeast Edmonton (i.e. north by-pass); and the priority date of the Northwest Freeway may have to be moved ahead so as to serve residents of downtown and west Edmonton more efficiently. The site would then become convenient to the entire major arterial system of the Metropolitan Complex.

(ii) The site is near to the N.A.R. railway line. This line could be adapted for use by a commuter train or a form of rail rapid transit.

Disadvantages

(i) The site is not served directly by a major arterial road. Traffic would be required to use residential streets or rural roads from the St. Albert Trail until such a time when the routes planned to serve the area are provided.

(ii) Until such time as the proposed M.E.T.S. freeways are provided the site will not be convenient to the population south of the North Saskatchewan River, particularly the southeast.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) This site has the advantage of being located in one of the more scenic areas of the Metropolitan Area. The surroundings are primarily agricultural with the Namao airport nearby. The site offers a view of the Sturgeon River Valley and in general would contribute to a good campus atmosphere.

(ii) To the southwest of the site the land is being developed largely as single family residential. The Preliminary Regional Plan - Metropolitan Part shows the area's zoning as Agricultural-General Urban Reserve. To the east and south of the site the use is Low Density Agricultural, while to the northeast, within the Sturgeon Valley, the land is zoned for Metropolitan Recreational.

(iii) There are no odour or air polluting industries in the immediate proximity.

Disadvantages

(i) To the east is the Canadian Forces Base-Namao airport which, if used more intensely, might create some noise problem.

(ii) The flow of the Sturgeon is intermittent in some years. In order to improve the possibilities for use of the Sturgeon River, it would be necessary to regularize the flow.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) A university at Northwest A would greatly stimulate the economy of St. Albert and northwest Edmonton and would attract greater residential growth to the northwest part of the Metropolitan Area. In general, the university would have a beneficial effect on the future growth and development of the Metropolitan Area.

(ii) The site has the advantage that it will be causing no displacement of intensive land uses.

(iii) The purchasing power will increase in the north and northwest sectors of the Metropolitan Complex due to anticipated population shifts expected to follow. Other areas of Metropolitan Edmonton should benefit, but to a lesser degree.

Disadvantages

(i) A university on this site might originate some rezoning demands in northeast St. Albert and northwest Edmonton, possibly resulting in pressures to change the predominant single family character of the area.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a campus of 400 acres in size. Sufficient land area is also available for university oriented uses or a university community.

(ii) The site is buildable and appears relatively free of drainage problems, unstable soils or other construction difficulties.

(iii) All necessary utilities are available nearby. An underground water acquifier runs under this site and the possible use of this acquifier as a source of water should be examined in an engineering study. A major N.U.L. gas transmission line runs south of the proposed site.

Disadvantages

(i) The site is not presently served by adequate sewer or water facilities. The Sturgeon River could not supply sufficient potable water without major changes to the River flow. If the water source were to be derived from the City of Edmonton, it might be necessary to provide secondary pumping facilities and storage. The university or the municipality would be responsible for financing a water line from the City of Edmonton.

(ii) Special sewer lines will be required if the university is tied to the Edmonton system. A lagoon type treatment facility to be operated by the university may not be practical in the long run.

(g) Shape, Topography and Design Potential

Advantages

(i) The topography of the Sturgeon River Valley is complimentary to a university location. The Sturgeon Valley is less definable than is the North Saskatchewan River Valley, but nevertheless, provides a scenic site. The central portion of the site is well endowed with trees.

(ii) The rolling terrain and park-like nature of the landscape are elements which should provide maximum potential for an interesting and aesthetically pleasing development.

(iii) The higher land about one to two miles east of the Sturgeon River should provide a view of Edmonton, the St. Albert townsite and the Sturgeon Valley.

Disadvantages

(i) The view from portions of the site nearer to the Sturgeon River is limited by the lower elevation. This situation would be less desirable than if the whole site had a commanding view.

(ii) Generally open land with few tree groupings.

4. NORTHWEST B

The general site area is located in the northwest part of the Metropolitan Edmonton Area in the M.D. of Stony Plain, southwest of St. Albert and south of Big Lake.

(a) Nearness to the Centre of Population Distribution and Growth

Advantages

(i) All population and urban growth projected for the Metropolitan Edmonton Area before 1981 will take place within fourteen miles radius of site Northwest B. This site is more convenient to the new southwest growth areas than are the northeast sites.

(ii) Of the sites outside of the City of Edmonton boundaries, Northwest B is the most conveniently located in relation to the present and future population growth.

Disadvantages

(i) While the site has the advantage of being equidistant to the northeast and southwest areas of future growth of Edmonton, the site itself is not in the path of Edmonton's growth.

(b) Joint Use of Related and Other Facilities

Advantages

(i) The university would be able to make use of the existing and potential Big Lake and Sturgeon Valley botanical and recreational resources. Big Lake has a potential as a wildlife preserve and sanctuary and could be used for field laboratories by the university.[1]

(ii) The business establishments in St. Albert are conveniently located and could adequately serve the university in the initial stages.

(iii) The site is conveniently located to both N.A.I.T. and the University of Alberta campus.

(iv) Students could take advantage of the employment potential in St. Albert and in the light industrial establishments in northwest Edmonton.

Disadvantages

(i) A university adjacent to Big Lake may have an undesirable effect on the natural wildlife resource there, particularly if followed by an increased resident population.

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[1] For further reference please refer to: Edmonton Regional Planning Commission; Big Lake Study; April, 1965

(ii) At present there do not exist major multi-family developments near to this site which could adequately serve a new university. However, it is expected that as the university develops, this type of housing will be provided by private development. If the proposed West Jasper Place subdivision is realized, it will result in a large number of different types of dwelling units within 10 to 15 minutes of the campus.

(iii) This site is separated from the major new residential neighbourhoods in northwest Edmonton by industrial and agricultural uses.

(iv) The site is relatively remote from the cultural and recreational facilities of central Edmonton, but not as remote as sites Northeast A and B, Devon and Leduc.

(c) Accessibility

Advantages

(i) Site Northwest B is near to all points in the Metropolitan Complex with the exception of southeast Edmonton.

(ii) The site is presently served indirectly by Highway 2 (St. Albert Trail) and a number of rural roads. The Rural Roads Study proposes a roadway connection from 118 Avenue west to a proposed northern extension of Highway 60. As well, the site is scheduled to be served by the proposed west by-pass connecting Highway 16 west with Highways 2 north and south.

(iii) The site is near to the C.N.R. railway lines running north and west. These lines might be adapted for use by a commuter train or a type of rail rapid transit.

Disadvantages

(i) The site is not, at present, served directly by a major arterial. To make this site easily accessible, it will be necessary to construct the west by-pass proposed in the M.E.T.S. and to provide direct connections to 137 Avenue and the St. Albert Trail and from Highway 60 to 118th Avenue.

(ii) The site will not be served by freeways scheduled to be built prior to 1981. In the M.E.T.S. this area received low priority. Until such time as the contemplated freeways are provided, the site will not be convenient to the population in the southeast quadrant of Metropolitan Edmonton.

(iii) A serious conflict could result between work traffic moving to the northwest industrial areas and student traffic. However, the problem is expected to be less severe than if the campus located in the northeast.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) The surroundings are primarily agricultural with some treed land to the south of Big Lake and limited industrial uses nearby in the northwest industrial area. In general, the surroundings are peaceful and countrylike and offer a view of Big Lake. With proper safeguards the area could remain compatible to a university.

(ii) To the northeast of this site the land is or will be developed as residential. The undeveloped land presently separating this site from Edmonton could be utilized for industrial research facilities and university related housing. Due to

its proximity to Edmonton and St. Albert it is unlikely that Northwest B would lend itself to the development of a distinct university community or town.

Disadvantages

(i) The brick and cement plants located to the south may have an adverse effect, particularly on the future development of the area for residential uses. However, the rolling topography and proper buffering and scaling of uses will considerably minimize this problem. The dust, odour and smoke emanating from these plants would need to be rigidly controlled.

(ii) Big Lake may have to be dammed or the annual flow of the Sturgeon River will have to be increased and regularized to maintain a desirable level of water the year-round for safety and aesthetic purposes.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) A university campus in Northwest B will be a stimulant to the economy of St. Albert and northwest Edmonton and should attract growth to the northwest part of the Metropolitan Edmonton Complex. In general, the university will have a beneficial effect on the future growth and development of the portion of the Metropolitan Area north of the North Saskatchewan River.

(ii) The site has the advantage that it will not cause the displacement of existing intensive land uses.

Disadvantages

(i) Will require development of land for residential uses not planned for in the official plans and in an area with less normal demand than the northeast or southwest parts of the Metropolitan Area.

(ii) Intensive development that may follow could seriously jeopardize the wildlife preserve potential of the area.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a 400-acre campus.

(ii) The terrain is gently rolling to rolling and should not offer unusual difficulties for utilities extensions, roadways and building construction.

(iii) Providing water from the City of Edmonton should not be a problem as the site is within the 2,250-foot primary pumping zone. Consideration could be given to making use of the underground acquifier extending beneath Big Lake and south-eastward at approximately 137 Avenue and St. Albert Trail in Edmonton. At present Edcon Blocks Ltd. and Golden West Golf are two main users of the water from this acquifier.[1]

(iv) Major N.U.L. gas transmission lines are advantageously located near this site.

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[1] Source: Research Council of Alberta

Disadvantages

(i) The site is presently not served by sewer or water facilities. Sewage disposal is possible from this site but will require an expensive tunnel extension and lift stations. The use of sewage lagoons should also be explored. The problem of sewage disposal may be critical and should be analysed in an engineering study.

(g) Shape, Topography and Design Potential

Advantages

(i) A feature of this site is the unrestricted view of Big Lake and an interesting rolling topography. Scattered areas of the site, particularly the high ground on the south shore, are well endowed with trees offering a park like landscape. Various species of trees natural to the Alberta landscape are common in the area. Deciduous trees and shrubs cover the majority of the area with significant coniferous tree growth. The area is the closest location to Edmonton where a great variety of different forest types can be found.[1]

Disadvantages

(i) Negligible. Generally open land with few groupings with large trees.

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[1] Edmonton Regional Planning Commission,"Appendix A", Big Lake Study; April 1965, pp. 23a.

5 & 6. SOUTHWEST A AND B

These sites are located on the north and south sides of the North Saskatchewan River approximately midway between the central part of Edmonton and the Town of Devon.

(a) Nearness to Centre of Population Distribution and Growth

Advantages

(i) Sites Southwest A and B are both situated in the direction of southwest residential and population growth. Recently, the southwest quadrant has been accounting for a greater proportion of Edmonton's population and residential growth than any other part of the Metropolitan Complex. The General Plan for the City of Edmonton indicates that this trend should continue at least up to 1981. All growth projected to 1981 for the Metropolitan Complex, with the exception of the growth for Fort Saskatchewan, is expected to take place within 14 to 16 miles radius of the sites.

Disadvantages

(i) The sites are near to the southwest fringe of urban population and are southwest of the future centre of population. The site area is particularly removed from the northeast population growth quadrant.

(b) Joint Use of Related and Other Facilities

Advantages

(i) The rapidly growing residential areas of southwest Edmonton could satisfy the housing needs of students and staff. However, multi-family housing closer to the university would be more desirable.

(ii) Advantageous use could be made of River Valley parkland for recreational purposes. A private golf course is located in the immediate vicinity of site Southwest B.

(iii) Near to the University of Alberta, the Jubilee Auditorium and the University and Misericordia Hospitals. However, it should be added that if the second campus is developed as an autonomous university it would be more desirable if this campus were not developed within such close proximity of the University of Alberta.

(iv) Student employment should be available in the southeast industrial area; however, employment opportunities are not as convenient as in the northeast or the northwest quadrants.

Disadvantages

(i) Not near to the Research Council of Alberta industrial research centre and somewhat remote from central area cultural and recreational facilities.

(c) Accessibility

Advantages

(i) Near to the Quesnell Bridge and Freeway presently under construction. This road will pass through the southwest part of Edmonton, extending from 170 Street on the west to the Mill Creek Freeway on the east. The Quesnell Freeway will give the proposed sites good connections to roadways leading to the southwest, west and southeast parts of Edmonton with connections to: Highways 2, 14 and 16; the Mill Creek Freeway; 111 Street and the Jasper Freeway. An outer ring-road is also planned adjacent to this site.

(ii) Very little conflict expected between work traffic and student traffic. Access will be available from three major directions to Southwest B.

(iii) Southwest B is within reasonable proximity to the International Airport.

Disadvantages

(i) The sites are not conveniently accessible to the population growth in the northeast quadrant of Edmonton. The majority of the traffic from the northeast would have to travel through the congested central area of Edmonton. At present access from the remainder of the Metropolitan Area is poor. If sites Southwest A or B were selected the following roadways would have to be constructed in the first stage of development: 45 Avenue would have to be extended westward; 142 Street would have to be extended southward; and, a by-pass would have to be provided for more convenient access to St. Albert and north Edmonton.

((ii) No railroad lines nearby which might be adapted for a rapid transit facility. However, it may be feasible to construct a line to serve the university site Southwest B, the Edmonton International Airport, the University of Alberta and downtown Edmonton. It is unlikely that rail rapid transit service could be extended economically to site Southwest A.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) The surroundings are primarily low density agricultural and metropolitan recreational with some residential and institutional uses nearby. The surroundings are peaceful

and country-like and the higher lands offer a view of the North Saskatchewan River Valley and Edmonton. In general, these uses are compatible and would contribute to a good campus atmosphere.

(ii) To the northeast of the sites, the City of Edmonton is developing or is proposing residential development. A good choice of single family housing type already exists. If a university is developed in Southwest A or B, emphasis may have to be placed on attracting multi-family developments to satisfy the needs of the university population.

(iii) The site is favourably located in relation to prevailing winds and is relatively free of air pollution, noise from industry or other industrial nuisance factors.

Disadvantages

(i) Negligible. Some minor gravel operations.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) The university will be a further stimulant to growth in the southwest part of the Metropolitan Complex and should have a beneficial effect on surrounding land uses. The distance from the built up areas of Edmonton would offer an opportunity for the development of university oriented housing, but not the development of a university community or town.

(ii) A university in Southwest A or B has the advantage that it will cause no displacement of intensive land uses.

(iii) The purchasing power will increase in the southwest sector of the Metropolitan Complex due to the population shifts expected to follow. Other areas of Metropolitan Edmonton will benefit, but to a lesser degree.

Disadvantages

(i) A second university there may over stimulate the existing rapid growth in the southwest and could have a depressing effect on growth in the north and northeast parts of the Metropolitan Complex, thus upsetting the general plan for growth. The Metropolitan Area as a whole would not be equally favoured in having close contact with a university facility.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This general location has a buildable area which is more than adequate for a campus of 400 acres in size. However, it should be noted that numerous country residences exist in the vicinity and this may create a problem of land acquisition in the future as more residences of this type are developed.

(ii) The sites are not adversely divided by highways, railroads and pipelines. However, a major N.U.L. transmission line runs adjacent to the sites and may affect the detailed siting of buildings.

(ii) The topography of Southwest A is more regular than Southwest B. Parts of Southwest B are level but also contain high points which may be difficult to service. Unserviceable high points could be put to numerous informal uses such as those of an athletic and recreational nature.

(iv) Portions of sites Southwest A and B are within the 2,244-foot Edmonton water primary pumping zone limit. The City of Edmonton has indicated that by 1981 a water storage tank will be required in the vicinity to serve the anticipated residential expansion. It may be possible to use the same facility to serve a university. The sewage from Southwest B could be tunneled to the facilities presently serving the Riverbend Subdivision although some pumping may be necessary, depending on the specific location of the site.

(v) A major N.U.L. transmission line is located very near to the sites and consequently only limited extensions would be needed to either Southwest A or B.

Disadvantages

(i) Since the university sites are proposed upstream from Edmonton they will have to connect their sewerage systems to the central sewage treatment plant or the main treatment plant in east Edmonton. Southwest A would definitely require total pumping and a long extension of sewers.

(ii) Presently the sites are not serviced with water or sewer lines. Edmonton is proposing a water treatment plant just south of Big Island, but not before the population of the City reaches one million. A water storage tank will also be necessary.

(g) Shape, Topography and Design Potential

Advantages

(i) Southwest A and B both offer a topography worthy of a university location and are suitable for a low density campus. The sites offer a rural setting and provide a sweeping view of the North Saskatchewan River Valley. Site B is more rolling than A and

provides a number of unusually high vantage points. Both sites are adjacent to the North Saskatchewan River and contain pockets of trees along the ravines and the bank of the River.

Disadvantages

(i) There appears to be a definite shortage of large trees outside of the River Valley and ravines. Reinforcement of the existing vegetation for screening purposes will be desirable.

7. DEVON

The site area is located approximately 14 to 16 miles southwest of the centre of Edmonton adjacent to the River. The area under consideration is east of Devon and on the high part of the North Saskatchewan River bank. In this study, the Devon site is considered purely as a site for a university town.

(a) Nearness to Centre of Population Distribution and Growth

Advantages

(i) Negligible. However, the site is within commuting distance of southwest Edmonton and also the Town of Leduc.

(ii) This area could be developed as a self-sufficient university town.

Disadvantages

(i) Not near to the centre of metropolitan population concentration and projected growth.

(b) Joint Use of Related and Other Facilities

Advantages

(i) In the initial stage the recreational, commercial and residential facilities of the Town of Devon could be utilized.

(ii) If proper access were provided joint use of facilities with the University of Alberta could be made. However, this arrangement might be undesirable as it could be a detriment to the new university developing a character of its own.

Disadvantages

(i) Commercial and residential facilities would have to be greatly expanded to accommodate students and staff. Particularly, a greater variety and a better choice of housing would be needed.

(ii) Devon is not in a position to supply the cultural and social outlets necessary for a university's development. The students would be separated from the stream of life and the university would have to develop its own cultural and supporting facilities, theatres and meeting places, etc.

(iii) A very small proportion of the total population of the Metropolitan Complex could benefit from evening course extension facilities due to distance involved.

(c) Accessibility

Advantages

(i) Good access to the International Airport, Leduc and south Edmonton when the connection from Highway 60 to Highway 2 is constructed.

Disadvantages

(i) At present only Highway 60 serves the site. Direct access to this site from Edmonton and Highway No. 2 would definitely have to be improved. Long range M.E.T.S. plans provided for a major highway and a scenic route from Edmonton to this site, but it is unlikely that these will be constructed prior to 1980.

(ii) It would be expensive to include the site within a metropolitan rail rapid transit system, mainly due to a lack of rail line facilities.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) This area is ranked as one of the more scenic in the Study Area. Here one finds rolling and hilly topography as well as views of the North Saskatchewan River Valley. At this site one can immediately sense the natural qualities of the landscape.

(ii) The land, in general, is countrylike and supports agricultural and recreational uses.

Disadvantages

(i) Some limited petroleum-industrial development exists near Devon. Careful detailed siting and a proper greenbelt might eliminate this problem. Pollution is not especially noticeable although some exists.

(ii) The proximity of the site to the Edmonton International Airport may create noise problems in the future as larger and a greater number of aircraft use the Airport.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) The university should be a stimulant to the growth of the Towns of Devon and Leduc and southwest Edmonton. In general, it should have a beneficial effect on surrounding land uses. Devon could become a closely integrated university town through proper development. The Town and university would definitely have to grow together and be closely integrated, much like the older universities of the world which grew up with the town.

(ii) The site has the advantage that it will be causing no displacement of intensive land uses. Some agricultural uses and country residences may have to be displaced or integrated into a master plan.

Disadvantages

(i) The Devon site is more isolated than other sites under consideration in the Study Area. Consequently a university there may not have as desirable effect on the overall development of a compact Metropolitan Edmonton Area as other sites would.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a campus of 400 acres in size.

(ii) The site is not adversely divided by highways or railroad lines. There are a number of ravines, however, which could be an asset in providing natural separations between different land uses.

(iii) There should be no unusual problems in providing natural gas or electricity. A major N.U.L. gas transmission line runs immediately to the southeast of the proposed site.

Disadvantages

(i) A new water treatment plant will have to be provided to serve Devon and the university site.

(ii) Wastes would require secondary treatment plus chlorination since the site is upstream from Edmonton. This is the degree of treatment currently provided by the Town of Devon. Possible pumping of sewerage to the City of Edmonton may have to be considered but it is not thought to be feasible. In general, due to the possibility of greater water pollution, it may not be desirable to create a large community a short distance upstream from Edmonton. As an example, a University of California site selection study estimated that a university of 20,000 students can support a total population of one hundred thousand.

(g) Shape, Topography and Design Potential

Advantages

(i) The topography is suitable for the creation of an overall interesting design and fine views. A university at Devon would likely take the shape of a low density campus and retain a pastoral setting.

(ii) Permits the development of a university community or town under a master plan and under direct university control.

Disadvantages

(i) Contains a few pockets of trees adjacent to ravines and the River Valley. Extensive tree planting would be necessary

8. LEDUC

The area under examination is a site north of the Town of Leduc. This site is considered in light of the possibility of developing Leduc as a university town.

(a) Nearness to the Centre of Population Distribution and Growth

Advantages

(i) This site could serve the district towns and cities between Red Deer and Edmonton as well as south Edmonton. In this manner a university here could relieve some of the enrollment pressures on the University of Alberta.

Disadvantages

(i) The site is on the extreme south end of the Metropolitan Complex and consequently is not as near to the expected centre of future population distribution and growth as other sites. The site has a relatively poor potential for university development if proximity to population is judged to be a prime factor.

(b) Joint Use of Related and Other Facilities

Advantages

(i) In the initial stages the commercial and limited residential facilities of Leduc could be utilized for university staff and students. However, the choice of housing would have to be more varied.

(ii) The University of Alberta is reasonably accessible to this site for joint use purposes.

(iii) Employment opportunities might be available at the nearby Edmonton International Airport and in the southeast industrial area of Metropolitan Edmonton.

Disadvantages

(i) Leduc is not in a position to supply the cultural and social outlets necessary for a university's development. The students would be separated from the stream of life and the university would have to develop its own cultural facilities.

(ii) Evening extension programs would not be convenient to a large proportion of the metropolitan population.

(c) Accessibility

Advantages

(i) The approved limited access Highway No. 2 should provide good access to the site from southwest Edmonton and from Sherwood Park. Roadway plans proposed in the M.E.T.S. and the Regional Rural Road Study indicate that excellent access to downtown Edmonton should eventually be available. It is possible that in the future a commuter train facility using the C.P.R. line or right-of-way might serve the site. A commuter or rapid transit facility to this site could be linked with service to the International Airport.

Disadvantages

(i) At present there is only one major route (Highway No. 2) serving the site area.

(ii) The site is not easily accessible from the north half of the Metropolitan Complex.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) The site is on high ground near to residential uses and Saunders Lake. The area is primarily agricultural.

(ii) The site is free of odour, air pollution and removed from heavy industry.

(iii) The industrially zoned land in northeast part of Leduc and land in the airport flight paths could be utilized by clean industries or industrial research establishments requiring a location near the university.

Disadvantages

(i) The site is near to the International Airport and is affected by aircraft flight patterns. Noise problems will be detrimental to a university and possible future residential expansion which would likely have to take place northeast of Leduc in order to accommodate the university population.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) The university would be a stimulant to the growth of the Town of Leduc and in general would have a beneficial effect on the surrounding land uses. Leduc could become a closely integrated university town through proper development. The town and university would have to grow together and be closely integrated, much like the older universities of the world which grew up with their towns.

(ii) The site has the advantage that it will be causing no displacement of intensive land uses. Some agricultural uses and country residences might have to be displaced.

Disadvantages

(i) The site is relatively isolated in terms of the overall Metropolitan Edmonton Complex.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) This location has a buildable area which is more than adequate for a campus of 400 acres in size.

(ii) No problems are envisioned with the supply of natural gas. Plains-Western Gas and Electric Company Ltd. serves the Town of Leduc.

Disadvantages

(i) A university at this location will have to establish its own sewer disposal system as it will not be feasible to connect to the Edmonton system. The existing system in Leduc would not be able to handle a large development such as a university and related uses.

(ii) Water service will most likely have to be derived from the City of Edmonton via a large diameter main. This would involve considerable expense as it would be necessary to store the water.[1]

(g) Shape, Topography and Design Potential

Advantages

(i) Negligible when compared to other sites in the Metropolitan Complex. Some advantages might be realized by locating adjacent to Saunders Lake. The Lake may have some potential as a recreational area and if properly integrated into the campus plan it could add to the university's character.

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[1] The existing pipeline from Edmonton is rated as having a sufficient capacity for 25,000 people.

Disadvantage

(i) The character of landscape and visual quality of natural features do not compare as well as the features supporting other sites considered in this Study. Saunders Lake would require considerable shoreline improvement and the area would require extensive tree planting.

9. URBAN CAMPUS - CITY OF EDMONTON BOYLE STREET URBAN RENEWAL AREA

This proposed site is located in downtown Edmonton bounded on the east by the proposed Downtown Freeway Loop, on the south by 101 Avenue, on the north by 102 Avenue and on the west by 97 Street. This site is proposed primarily because of the characteristics of the site which offer an opportunity to create a unique urban campus. It will be feasible only if it benefits from the land acquisition and building program for the area and would have to be directly tied to the total urban renewal program for the area. In this Study, this site is considered solely as a satellite campus to the University of Alberta.

(a) Nearness to the Centre of Population Distribution and Growth

Advantages

(i) The site is very near to the present and future centre of population. The majority of the new growth will take place within 10 miles radius of this site and the site will remain equidistant to the major growth areas.

Disadvantages

(i) Negligible.

(b) Joint Use of Related and Other Facilities

Advantages

(i) A large amount of older housing, both single and multiple family, exists adjacent and to the north and northeast of the site area and would be able to meet some staff, faculty and student needs at a reasonable cost until such time as new housing is constructed. The proposed Urban Renewal concept for this area visualizes institutional and high density residential development as one aspect of its plan. In addition, the central location of this site provides automobile and bus

access to numerous residential areas located in the Metropolitan Edmonton Area.

(ii) The site is within easy walking distance of the central business district and is adjacent to retail establishments. Although these businesses are marginal in character, the development of a campus could stimulate their redevelopment into university oriented establishments serving the campus population. Several buildings in the site area might be considered for use as interim university space: i.e., the R.C.M.P. building and the Salvation Army hostel.

(iii) This site is immediately adjacent to the Civic Centre and its Public Library, Art Gallery, Court House and to proposed Coliseum-Convention-Trade Centre facilities. In addition, the entertainment facilities of downtown Edmonton are within short walking distance. The new developments in the vicinity of the site are in advanced stages and should result in a substantial upgrading of the land use adjoining this site.

(iv) Owing to the proximity of the site to the Civic Centre and the central business district, full and part-time student employment opportunities are very advantageously located.

(v) The site is in close proximity to the athletic and recreational facilities of the River Valley and Clarke Stadium.

(vi) University of Alberta and the Northern Alberta Institute of Technology are within short commuting distance.

(vii) An excellent opportunity exists for the extensive use of the campus for part-time and evening credit programs.

Disadvantages

(i) At present there is a shortage of good housing adjacent to the campus site. Some student and staff housing may have to be provided adjacent to the site, probably in the form of a town house and high-rise development.

(c) Accessibility

Advantages

(i) Automobile access to this area is good but traffic congestion is a serious problem during peak hours. The problem of traffic congestion should be greatly reduced when the planned roadways are constructed or improvements made. Jasper Avenue will be widened and realigned east of 98 Street to form the south boundary of this site. In addition, 102, 102A and 103 Avenues are proposed for widening. Planned roadways consist of the east portion of the Downtown Freeway Loop, a new connection from 97 Street to the River Valley roadways and a direct connection via 101 Avenue to southeast Edmonton. Other planned roadways, too numerous to mention here, will be either widened, improved, removed or newly built and will provide excellent access to this site.

(ii) This site is better served by public transit than any other site under consideration. Nearly every bus line converging onto downtown Edmonton provides direct service to this site or passes within a short walking distance. This site will be within walking distance to mass rapid transit facilities proposed to serve downtown Edmonton.

Disadvantages

(i) A campus at this location might create serious parking problems which could prove expensive to resolve. Costly off-street parking facilities, possibly in the form of decks over the Downtown Freeway Loop, would be required or student use of automobiles would have to be severely curtailed. It is possible that daytime parking demands of students could be combined with night-time parking demands for a facility such as the proposed coliseum. This would provide for the optimum combined use of such a major parking facility.

(d) Compatibility of Surroundings, Environment and the Regional Plan

Advantages

(i) The General Plan for the City of Edmonton classifies this site as falling within the Central Area frame. This designation suggests uses similar to those in the office-retail core. However, the area is presently under urban renewal study and review and has been recommended for use as institutional and multiple family housing. Under Edmonton's Land Use Classification, the area is presently zoned C-3 and C-5 (which permits general commercial and motel and special purpose uses), P-1 (institutional land service and R-5 (medium density residential).

(ii) The site offers a beautiful panoramic view of the North Saskatchewan River and will be compatible with the environmental features of the adjoining Civic Centre and the redeveloped urban renewal area. The adjacent Civic Centre will offer open space, park and pedestrian areas, cultural amenities and will provide an attractive background for an urban campus.

(iii) There are no appreciable industrial nuisance factors nearby and the one existing will disappear with the phasing out of the City incinerator.

Disadvantages

(i) There may be some traffic noise problems associated with this area. Similarly, the Industrial Airport aircraft flight path over this site is a nuisance and there is the added hazard of possible aircraft accidents occurring. However, there is the likelihood that the Industrial Airport may be relocated in the future.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) The City of Edmonton Urban Renewal Concept Report and the General Plan both indicate the desirability of redeveloping this area. Existing conditions of structural and economic deterioration and the unrelated hodgepodge of commercial residential and industrial land use in this part of Edmonton would indicate that this excellent downtown location could be put to better uses such as an urban university and associated high density residential. Because of the structural and economic deterioration of this area, the land acquisition costs of the site could benefit from government assistance.

(ii) The university will be a stimulant to the overall redevelopment of the Boyle Street Urban Renewal Area by private funds and should have upgrading effects in the northeastern direction. Recently many American universities have benefited from urban renewal programs; for examples: Wayne University, Detroit;

Temple University, Philadelphia; University of Minnesota, Minneapolis; Illinois Institute of Technology, Chicago; and University of Kentucky, Lexington.

(iii) The university will give Edmonton's Central Area more diversified functions and an attractive development. The university campus could provide an attractive entrance to the Civic Centre from the east and southeast and would provide good balance to the Civic Centre and the central business district.

Disadvantages

(i) By locating on this site, the university may have the effect of unduly inflating land values in this area.

(ii) Certain real property tax revenue losses will be incurred by the City of Edmonton due to the conversion of these valuable properties to tax exempt status. However, the long-run effect of the university would result in social and economic improvement to the area and could result in the generation of additional tax revenues.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) The terrain of the proposed site is level with a sharp drop to the River Valley past the south and east boundaries. The site appears to be relatively free of drainage problems or unstable soils.

(ii) Water, sewers, natural gas, telephones, electric power are available to this site. Some expansion of existing services will be required to meet anticipated university needs, particularly water supply. The above ground electrical

distribution would have to be replaced by an underground system. The City of Edmonton is planning a number of deep tunnel sewer connections to this area in order to carry the increased load created by the existing Civic Centre redevelopment.

(iii) The site is well proportioned and would permit an efficient placement of buildings. Through block consolidation, roadway realignment and elimination of a portion of Jasper and 101A Avenues, two homogeneous parcels of land could be created.

Disadvantages

(i) The usable site is limited in size (the City Planning Department estimates 10 to 11 acres) and has little flexibility for future horizontal expansion of the campus. However, if the campus is restricted to a satellite function of the University of Alberta, catering exclusively to certain faculties, the size of campus required could be predicted quite accurately.

(ii) Multiple ownership of land. Owners may resist acquisition of land for university purposes, thus possibly unnecessarily holding back and making difficult the timing of development.

(g) Shape, Topography and Design Potential

Advantages

(i) The design could be integrated with the overall urban renewal plan for the area.

(ii) A unique feature of this site is the excellent view of the North Saskatchewan River Valley and downtown Edmonton. Some of the best views in the Study Area may be obtained from this site and the campus plan could be so developed as to preserve and enhance this view.

(iii) This site offers great potential for an excellent arrangement of buildings and open spaces. Excellent architectural design, contour variation and a program of landscaping can assure the development of an attractive and interesting urban campus.

Disadvantages

(i) Tree planting and man-made landscaping will be necessary. At present, the view to the north is less desirable and should be accounted for in the campus development plan.

(ii) The university would have little or no control over the development of properties surrounding the campus. However, this problem could be almost eliminated by the adoption of a planning and architectural scheme for the area which would fully recognize the needs of an urban campus.

10. URBAN CAMPUS - THE UNIVERSITY OF ALBERTA FARM

This site is located in southwest Edmonton south of 71 Avenue, bounded by 113 and 115 Streets on the east, by 133 and 122 Streets on the west and by the new married students housing complex on the south. The site is a little more than a mile south of the academic part of the University of Alberta campus and belongs to the University of Alberta. The area is proposed only as a site for a satellite or branch campus to the University of Alberta and offers an opportunity to create additional university facilities quickly and with minimum expenditures on land acquisition, housing and athletic facilities. Because of its proximity to the Universtiy of Alberta campus the site is not very suitable for a second autonomous university.

(a) Nearness to the Centre of Population Distribution and Growth

Advantages

(i) The site is near to the southwest and central area population growth centres and is within 12 miles of 95 percent of the population growth that is projected to take place in the Metropolitan Complex by 1980.

Disadvantages

(i) The site is not well related to the rapidly growing population of north and northeast Edmonton, St. Albert and Fort Saskatchewan.

(b) Joint Use of Related and Other Facilities

Advantages

(i) Joint and optimum use could be made of the existing cultural and recreational facilities of the University of Alberta. The University of Alberta campus and Michener Park married students housing complex are within convenient commuting distance.

The Jubilee Auditorium, the Museum of Natural History, the Edmonton Art Gallery, the University Hospital, etc., are all easily accessible.

(ii) A variety of employment opportunities would likely be available and might include anything from fashion modeling at the proposed Southgate Shopping Centre to heavy industrial employment in the industrial area several miles to the east.

(iii) A good variety of housing is convenient or is planned adjacent to this site. Greater emphasis might have to be placed on developing multi-family residential accommodation adjacent to the site in order to serve the student and staff population.

(iv) The site is conveniently located with respect to the Central Area cultural and recreational facilities and the active recreational facilities in the North Saskatchewan River Valley and Whitemud Creek.

(v) Retail shopping facilities are or will be available nearby. The proposed new Southgate regional shopping centre will be within a few minutes driving time.

Disadvantages

(i) Little opportunity exists for the creation of an industrial research park adjacent to this site due to the built up nature of the predominantly residential surroundings.

(c) Accessibility

Advantages

(i) The site is within 6 to 7 miles and 10 to 20 minutes driving time from the central business district. Projected freeways and roadways will bring this site within 10 minutes of the Civic Centre.

(ii) Several major roadway improvements are planned for this area, including conversion of 111 and 122 Streets into major arterials and 45th Avenue into a freeway (Quesnell Freeway). The Quesnell Bridge connection will provide excellent access from west Edmonton. The proposed M.E.T.S. South Freeway, when built, will provide excellent north/south access to this site.

(iii) Good access is proposed from Highways 16 West and 2 South. Most of the population south of Highway 16 is within convenient commuting distance by automobile.

(iv) The site is in line with route directions proposed by a Rapid Transit Committee set up by City Commissioners in November, 1967 and route proposals of the Bechtel Rapid Transit Study.

(v) There should be no problem in providing intensive bus service into this area.

Disadvantages

(i) Access would not be convenient for the bulk of the population in northeast Edmonton until the Northeast and South Freeways proposed in the M.E.T.S. are completed.

(ii) Due to a lack of existing railway lines, it will be expensive to serve this site by a commuter train.

(iii) Some conflict might be expected between work traffic moving to the Central Area and student traffic travelling to this site. The most critical conflict would occur in the vicinity of the University of Alberta and not in areas west or east of this proposed site.

(iv) A satellite campus might create serious parking problems. Costly off-street parking facilities would be required or student use of automobiles would have to be limited.

(d) Compatibility with Surroundings, Environment and the Regional Plan

Advantages

(i) The environs are primarily single-family residential with some commercial uses nearby. To the west, the site is partially separated from residential uses by a ravine.

(ii) The site is relatively high in elevation and offers views of the surrounding land and central Edmonton.

(iii) The site is free of industrial pollution and noise.

Disadvantages

(i) Negligible.

(e) Effect on Surrounding Development and Economic Impact

Advantages

(i) A satellite campus in this location would be a stimulant to growth in west and southwest Edmonton. The purchasing power would increase in the southwest parts of the Metropolitan Area due to population shifts expected to follow.

(ii) A campus on this site could reduce pressures for decentralization of Edmonton.

(iii) Because the land is owned by the University of Alberta no additional tax revenue losses by the City need be expected. In effect, greater tax revenues will result to the City of Edmonton when high density developments follow.

Disadvantages

(i) Demands for rezoning of single family residential properties may be exerted, thus adversely affecting the existing good residential character of this area.

(ii) Parking congestion on residential streets.

(f) Adequacy of Site for Building Purposes, Service and Utilities Extensions

Advantages

(i) Sufficient land is available for a satellite campus to the University of Alberta.

(ii) The topography of the site is relatively level and buildable and is not adversely divided by major transportation routes or physical features. Problems of drainage or unstable soils are not evident and adequate utilities will be available to this site.

(iii) Single ownership of land, by the University of Alberta, should eliminate problems of land acquisition.

Disadvantages

(i) A minor problem of 122 Street cutting through the site area.

(g) Shape, Topography and Design Potential

Advantages

(i) Homogeneous shape that would lend itself to an interesting architectural and design treatment.

Disadvantages

(i) Lack of contour variation, open land and virtually nonexistent tree cover. Extensive tree planting and man-made landscaping will be necessary.

SUMMARY AND CONCLUSIONS

The Study has involved a careful analysis of the numerous factors that affect the selection of a site for a second university campus in the Edmonton Area. On the basis of this examination it has been possible to prepare a summary of significant conclusions and differences regarding each individual site.

(a) Distinctive Qualities and Differential Aspects of Individual Sites

1. Northeast A

This proposed site area is located southeast of the North Saskatchewan River in the County of Strathcona, between the built-up areas of northeast Edmonton and the Town of Fort Saskatchewan. The site is located approximately 12 to 15 miles from the central business district of Edmonton. (See Figures 10 and 11.) The more desirable or good points of this site area are: the shape, topography and design potential; the adequacy of site for building purposes; and, the university-industrial research and employment potential. This site is not as well related to the existing or population growth projected to 1980 as are sites Northeast B and the Southwest and Northwest sites. However, if consideration is given to the population a half century away and the influence of the university establishing there, together with the normal movement of population, a large proportion of the population should be located immediately north and southwest of this site. Direct access is presently limited to Highway 55 and is not expected to be improved to any great extent for some time because of the low priority of freeway construction to this area. Rail facilities for public transit do not favour this site as well as they do sites Northeast A, Northwest A and B and the Leduc site. Utility servicing may involve the construction

of a water pipeline from Edmonton and sewage would likely have to be pumped to the new City treatment plant or to a treatment facility in Fort Saskatchewan. The attractiveness of the site is marred somewhat by the northeast industrial influences. The site should be characterized by low to medium land acquisition costs and high servicing costs.

2. Northeast B

This proposed site area is located on the north bench of the North Saskatchewan River in the M.D. of Sturgeon, midway to residential areas of northeast Edmonton and the Town of Fort Saskatchewan. The site is located approximately 9 to 12 miles from the central business district of Edmonton. (See Figures 10 and 11.) The site ranks favourably in terms of aesthetics, shape, topography, design potential and the anticipated effect of the university on the overall development of the Metropolitan Area. The site rates fair in terms of its proximity to the existing total metropolitan population. Present access is especially difficult to the growth areas of southwest Edmonton. However, the site is in the natural path of Edmonton's new residential growth in the northeast. Direct access from this site to Edmonton is limited to Highway 15. However, freeway and highway proposals indicate that excellent access should be available to this site from three major directions in the future. Rail and transit proposals also favour this site. Provision of water services will be expensive, but should be less expensive than to site Northeast A, the Northwest sites, and the Devon and Leduc sites. Relatively, the site should be characterized by low to medium acquisition costs and high water servicing costs. The attractiveness of this site is reduced by the northeast industrial influences. However, due to its proximity to industry, Northeast B does have the common advantage with Northeast A, in that, this new university could become the hub or centre of future private and public industrial research facilities.

3. Northwest A

This site area is located in the northwest part of the Edmonton Metropolitan area in the M.D. of Sturgeon, adjacent to the Sturgeon River and to the northeast of the Town of St. Albert. The site is located approximately 6 to 9 miles from the central business district of Edmonton. (See Figures 10 and 11.) A characteristic of this site is that it is almost equidistant to the central, northeast and southwest population growth areas of Edmonton and is adjacent to the Town of St. Albert. By locating a university at this location substantial population growth would likely take place in St. Albert. This would be in line with the Commission policy encouraging attractive and viable Metropolitan communities. Other more desirable or good points of this site area are: the shape, topography and design potential; the environment; and, the adequacy of the site for building purposes. Present direct access to this site is limited to Highway 2 north. However, the M.E.T.S. freeway and Provincial highway proposals and rail rapid transit proposals favour this site. The site is characterized by anticipated high water and sewer servicing costs and low to medium land acquisition costs. Water will likely have to be obtained from the City of Edmonton and the sewer system will require expensive tunnel extensions to the new City treatment plant or to the existing Edmonton system. A lagoon type treatment facility near the site could be considered as well. The actual cost and the most desirable type of water and sewer service will have to be determined in an engineering study.

4. Northwest B

This site area is located in the northwest part of the Metropolitan Edmonton Area in the M.D. of Stony Plain, southwest of the Town of St. Albert and south of Big Lake. The site is located approximately 6 to 9 miles from the central business district of Edmonton. (See Figures 10 and 11.) A unique characteristic of the site is that it is equidistnat to the central, northeast and southwest population growth areas of Edmonton. Other desirable features of this site are the shape, size, topography and the building and aesthetic potential. The site is not as compatible with the environment as sites Northwest A and Southwest A and B. Some difficulty might result in establishing land uses and maintaining a proper environment because of a few nearby industrial influences. A university would likely assist in providing a green framework or belt in the northwest and at the same time it will create pressures for greater residential development in the northwest. Present access to this site is poor; however, proposed highway and freeway access to this site appears good to excellent. Northwest B exhibits similar water and sewer servicing problems to that in Northwest A. The site would likely be characterized by low to medium land acquisition costs and high servicing costs.

5 & 6. Southwest A and B

These sites are located on the north and south sides of the North Saskatchewan River, approximately midway to the central part of Edmonton and the Town of Devon. The sites are located about 6 to 9 miles from the central business district of Edmonton. (See Figures 10 to 12.) Both Southwest A and Southwest B ranked very good in terms of topography and compatibility with the surrounding environment and relatively good to excellent in all other categories, their weakest factor being present accessibility. As yet no primary highway, freeway or major arterial serves the sites; however, proposed plans indicate that this deficiency will be rectified in the future. Southwest B is better related to future roadways than Southwest A and is preferable in terms of possible rail rapid transit service. A new university at either or these two locations will have a desirable effect on the Metropolitan Area; but, it might not be most advantageous to establish a second fully autonomous university within such close proximity to the University of Alberta. The new university might find it difficult to develop character and the Metropolitan Area as a whole would not be equally favoured in having close contact with a university facility. The sites, would be characterized by relatively low to medium acquisition costs and medium servicing costs.

7. Devon

This site area is located approximately 14 to 16 miles southwest of the central part of Edmonton and east of the Town of Devon. In this Study, Devon is considered as a possible site for a university town. The more desirable or good points of the site are aesthetics, the compatibility of the site with the surroundings and environment, and the design potential. A university at this location would offer an opportunity for the development of a planned university town which would be strongly dependent on Edmonton for specialized facilities. The site ranks poorly in terms of present accessibility and proximity to the large segments of the population in the Metropolitan Complex. Due to the time-distance involved joint use of facilities between the students on the Devon site and facilities of the University of Alberta in Edmonton would be inconvenient. Water and sewer servicing will be a major and expensive problem. In particular, special treatment of sewage would be necessary since the site is upstream from Edmonton. The site would probably be characterized by relatively low land acquisition costs while servicing costs would be high.

8. Leduc

This site is located in the extreme south part of the Study Area in the County of Leduc and immediately to the northeast of the Town of Leduc. The site is located approximately 17 to 19 miles from the central business district of Edmonton. (See Figures 10 and 12). The site is not well located to the existing areas of Metropolitan population distribution and future growth. Since this site was selected for possible development as a university town, population proximity was not considered critical. However, if proximity to population is not essential, housing for students and staff becomes critical. The site has limited residential and commercial facilities and joint use of facilities in central Edmonton would not be convenient. Furthermore, this site rated among the lowest of the sites under consideration in terms of design potential, environment and utilities extensions. Special consideration will have to be given to the magnitude and effects of the noise nuisance emanating from the International Airport flight paths. The site does not possess any outstanding factors, although potential accessibility rates well. A university at this location would offer an opportunity to develop a planned university town or centre which would be strongly dependent on Edmonton, particularly for cultural activities. Locating a university here would be in line with Commission policy of encouraging attractive and viable Metropolitan centres. Land acquisition costs would probably be lower at this site than for sites nearer to the City of Edmonton but servicing costs would be high.

9. Urban Campus - City of Edmonton Boyle Street Urban Renewal Area

The site is located in the southeast part of the central business district and is bounded on the south by 101 Avenue, on the east by the proposed Downtown Freeway Loop, on the west by 97 Street and on the north by 102 Avenue. (See Figures 10 and 11.) This site, containing some 11 usable acres, is the smallest of the sites under study and is proposed as a location for a satellite or branch campus having facilities restricted to certain faculties of the University of Alberta. Its location near the Civic Centre, the central business district and in the Urban Renewal Area could provide an excellent environment for an urban oriented campus and would assist in revitalizing this part of Edmonton. At present, there is a certain lack of compatibility with various commercial activities and the conditions of blight that exist. The cost of land acquisition and initial reductions in tax revenues to a municipality would probably be highest of any of the sites under consideration. This site is ranked good to excellent in current and projected traffic and public transit access. Proximity to the Civic Centre, where open space and cultural amenities such as the Public Library, the Art Gallery, theatres, meeting places, provides a "sense of place" and the proper environment for an urban campus development. Part time employment opportunities in downtown Edmonton are plentiful and convenient. Close relationships could be maintained between the business and professional community and the university. Students will have a better opportunity to associate with others of their particular profession; hence, receiving valuable practical experience. The site ranks high from the standpoint of suitability for a satellite or branch university campus development, but relatively low from a number of economic and tax considerations.

10. Urban Campus - University of Alberta Farm

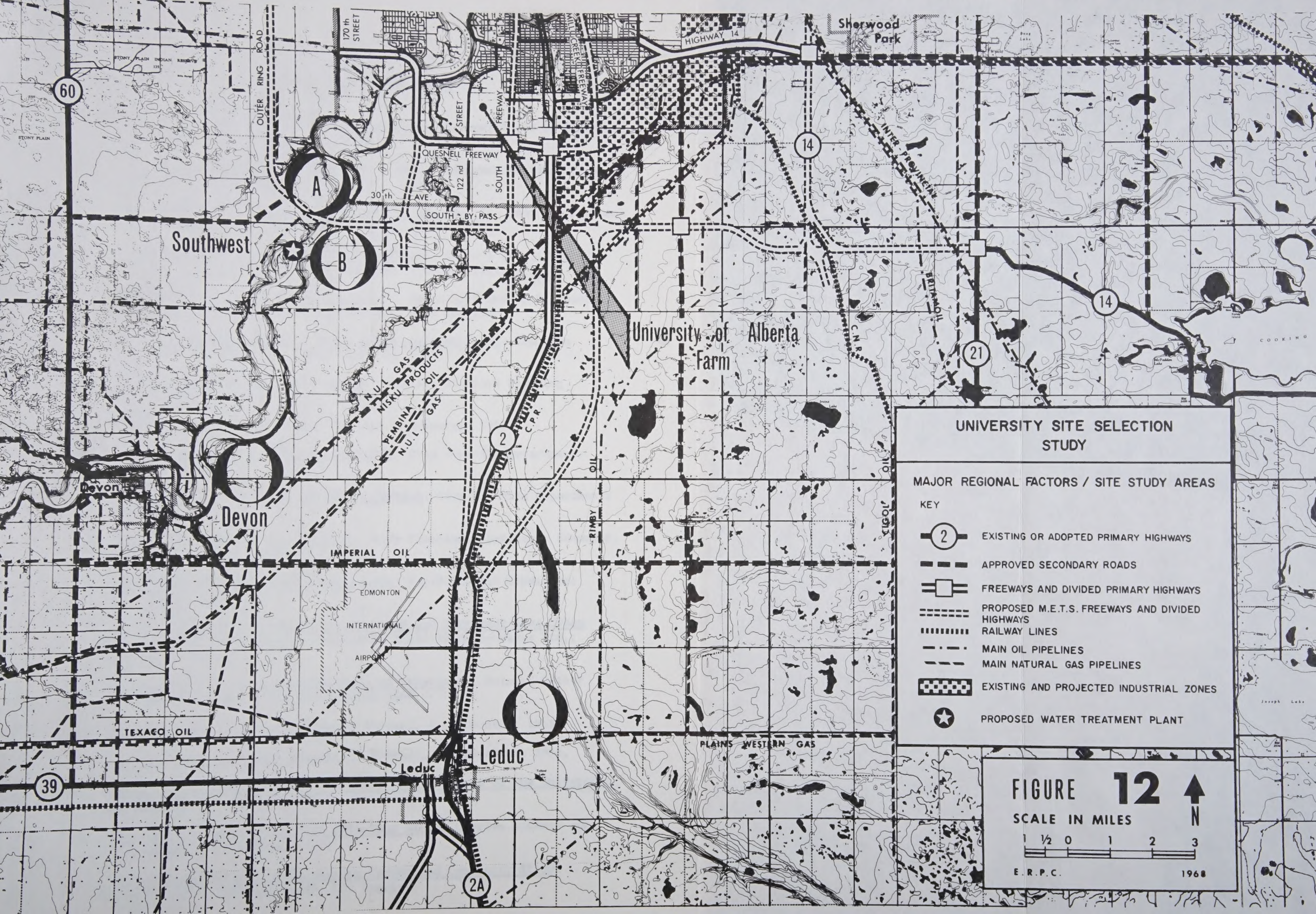
This site area is located in southwest Edmonton, south of 71 Avenue, bounded by 113 and 115 Streets on the east, by 133 and 122 Streets on the west and by the Michener Park married students housing complex on the south. (See Figures 10 and 12.) This site offers the opportunity to create additional university facilities quickly with minimum expenditures on land acquisition, housing and athletic facilities. The site is approximately one mile south of the University of Alberta campus and its proximity to a variety of shopping, housing and recreation would be beneficial to such a campus. The acquisition costs of the site and new tax losses to the City of Edmonton would be negligible since the land belongs to the University of Alberta. Automobile access to the site is good but will not be convenient for the majority of the population residing in north and northeast Edmonton until the proposed freeways are constructed. Public transit service is poorer to this site than to the proposed downtown campus site but future possibilities for service appears excellent. A large proportion of the students would find the ease of access and the travel time to the University of Alberta Farm similar to that experienced at the University of Alberta. The site is characterized by ranking high in terms of compatability with the surrounding environment, by negligible acquisition costs and relatively low servicing costs.

(b) Similar Characteristics of Site Groups

On the basis of the examination in Part III of this Study, it has been possible to group the sites according to common groups showing similar characteristics.

GROUP	GROUP	GROUP
New University Sites Within Metropolitan Edmonton Area, Beyond City of Edmonton Limits.	New Satellite Campus Sites Within Built Up Area of Edmonton	University-Town Development
- Northeast A & B - Northwest A & B - Southwest A & B	- Boyle Street Urban Renewal Area Campus - University of Alberta Farm	- Devon Area - Leduc Area
- Location near or in the path of existing and future population growth. Could directly influence the flow of population growth.	- Metropolitan population would continue to be served by a university in a manner similar to the way it is served at present. Relieve enrolment pressures of U. of A.	- Home address of a large proportion of the student population not within convenient daily commuting distance. The sites have a relatively poor potential for university development if proximity to population is judged to be a prime factor.
- Some difficulty in joint use of existing university related facilities. Possible partial joint use of University of Alberta facilities. Housing provision for students becomes critical. Part-time student employment potential fair to good. Evening extension programs would not be convenient to a large proportion of the Metropolitan population.	- No difficulty in joint use of existing university related facilities. Total joint use of University of Alberta facilities. Part-time employment potential for students good to excellent. Convenient for extensive use of the campus for part-time and evening credit programs.	- Difficulty in joint use of existing university related facilities. Very limited joint use of U. of A. facilities. Housing provision for students becomes critical. Part-time student employment potential poor to fair. Evening extension programs would not be convenient to a large proportion of the Metropolitan population.

- Access a greater problem for some sites than others. Access to each site will have to be considerably improved to serve the Metropolitan population.	- Improvement of existing access required. Public transit access and the M.E.T.S. roads would play a major role in this improvement.	- Considerable improvement to access needed in order to serve Metropolitan population. Primary and Secondary highway access and the M.E.T.S. roadways will be important.
- Compatible with Regional Plan. Will encourage some decentralization. Could substantially influence surrounding environment.	- Compatible with Regional Plan and Edmonton General Plan. Will encourage compact city. Will influence surrounding environment.	- Compatible with Regional Plan. Will encourage planned decentralization of Metropolitan population. Will substantially influence surrounding environment.
- Sufficient land for university campus and associated uses. Medium land values.	- Restricted campus size. High land values.	- Sufficient land for university campus and associated development. Low land values.
- Expensive utilities and services. May need to be connected to City of Edmonton systems.	- Utilities and services not a major problem and relatively inexpensive.	- Expensive utilities and services. Consideration will have to be given to developing a joint university-town utilities system.



UNIVERSITY SITE SELECTION STUDY

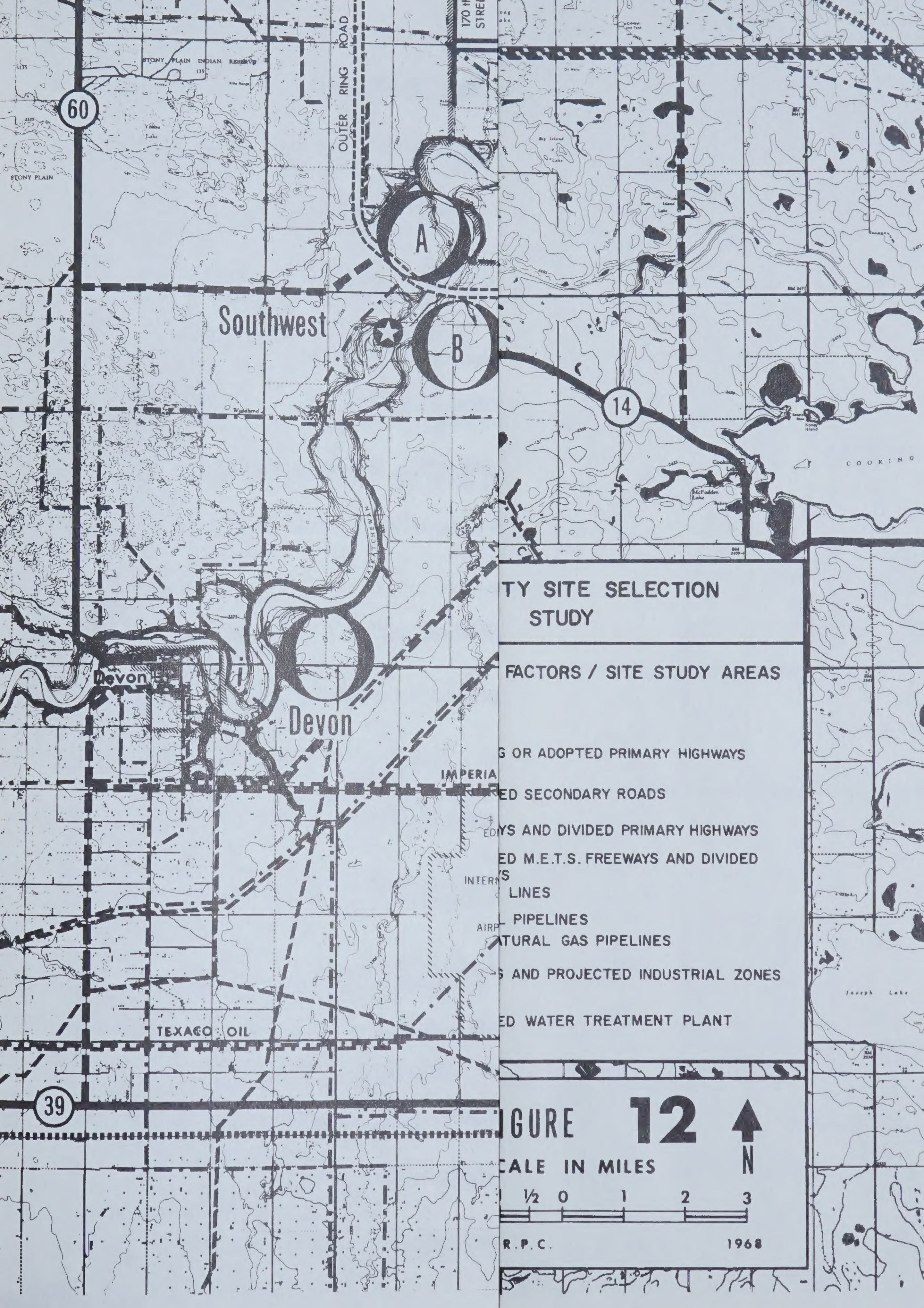
MAJOR REGIONAL FACTORS / SITE STUDY AREAS

KEY

2 EXISTING OR ADOPTED PRIMARY HIGHWAYS
APPROVED SECONDARY ROADS
FREEWAYS AND DIVIDED PRIMARY HIGHWAYS
PROPOSED M.E.T.S. FREEWAYS AND DIVIDED HIGHWAYS
RAILWAY LINES
MAIN OIL PIPELINES
MAIN NATURAL GAS PIPELINES
EXISTING AND PROJECTED INDUSTRIAL ZONES
PROPOSED WATER TREATMENT PLANT
SCALE IN MILES
1 ½ 0 1 2 3
N
E.R.P.C.
1968
Sherwood Park
HIGHWAY 14
170 th STREET
OUTER RING ROAD
STONY PLAIN INDIAN RESERVE
STONY PLAIN
60
STREET
FREEWAY
QUESNELL FREEWAY
122 nd
SOUTH
30 th AVE.
SOUTH BY PASS
A
B
Southwest
14
INTER PROVINCIAL
BRITAMOIL
C.N.R.
21
University of Alberta Farm
N.U.L. GAS
NISKU PRODUCTS
PEMBINA OIL
N.U.L. GAS
2
C.P.R.
OIL
RIMBY
Devon
Devon
IMPERIAL OIL
EDMONTON INTERNATIONAL AIRPORT
TEXACO OIL
PLAINS WESTERN GAS
Leduc
Leduc
39
2A
COOKING

FIGURE 12

Northwest

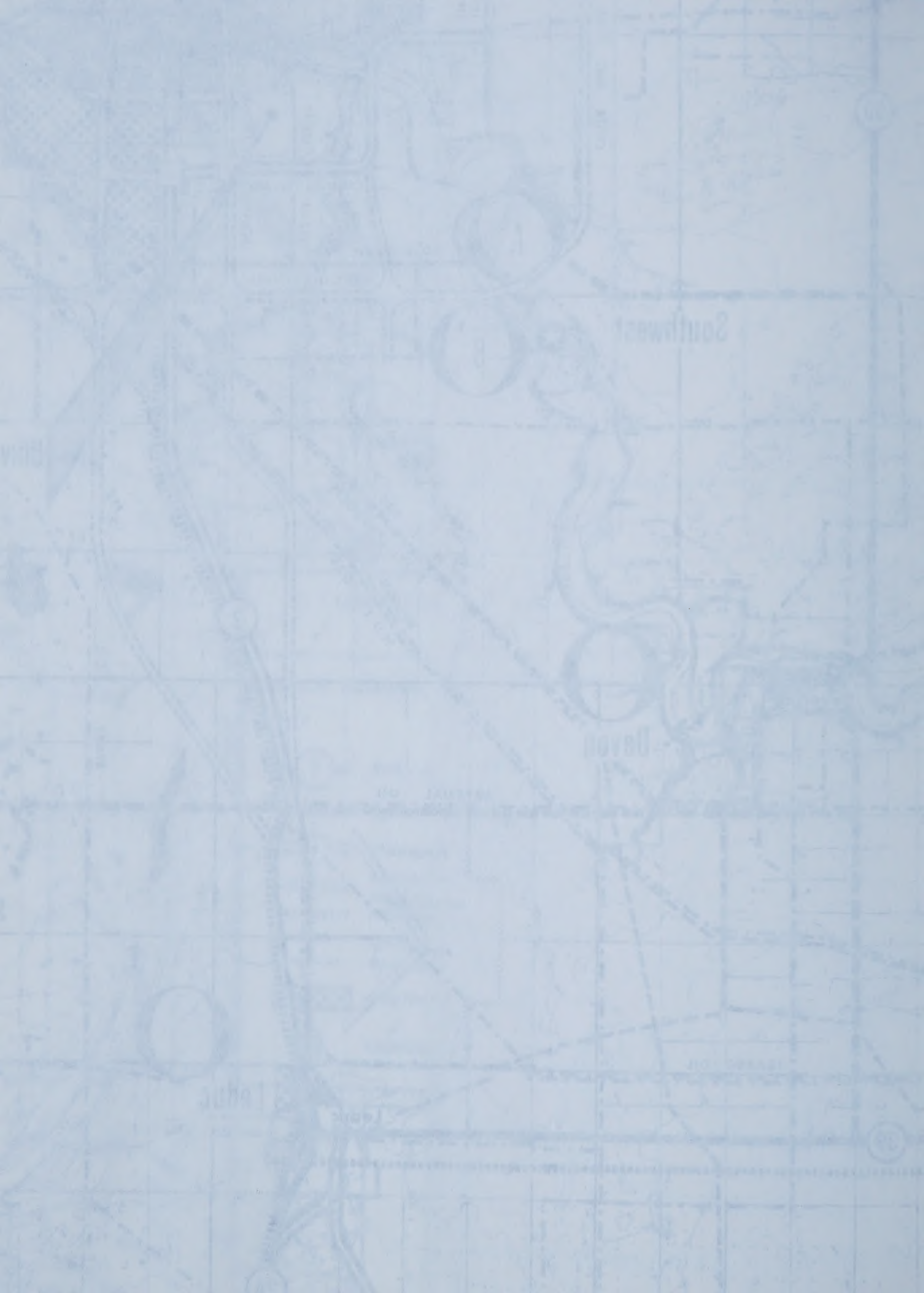


TY SITE SELECTION STUDY

FACTORS / SITE STUDY AREAS

IGURE 12

G OR ADOPTED PRIMARY HIGHWAYS
ED SECONDARY ROADS
YS AND DIVIDED PRIMARY HIGHWAYS
ED M.E.T.S. FREEWAYS AND DIVIDED
YS
LINES
L PIPELINES
ATURAL GAS PIPELINES
S AND PROJECTED INDUSTRIAL ZONES
ED WATER TREATMENT PLANT
N
CALE IN MILES
½ 0 1 2 3
R.P.C.
1968
OUTER RING ROAD
170 th STREET
STONY PLAIN INDIAN RESERVE
STONY PLAIN
60
14
39
A
B
Southwest
Devon
Devon
IMPERIA
EDI
INTERN
AIRP
TEXACO OIL
Big Island Lake
Twin Island Lake
Cooking Lake
McFadden Lake
Koney Island
COOKING
Joseph Lake
Yellow Lake
SASKATCHEWAN



APPENDIX

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Note: This is a list of major references used in the course of this Study. It does not include brochures, periodicals, letters and personal contacts too numerous to mention here.